DEPARTMENT OF CITY PLANNING 100 LARKIN STREET · SAN FRANCISCO, CALIFORNIA 94102

San Francisco City Planning Commission

Environmental Impact Report

HOTEL RAMADA
SAN FRANCISCO

Draft

EE 80.171

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Written comments should be sent to the Environmental Review Officer, 45 Hyde St., San Francisco, CA 94102

TABLE OF CONTENTS

		Page
I.	SUMMARY	1
II.	PROJECT DESCRIPTION	7
	A. Objectives of the Proposed Project	7
	B Location of the Proposed Project	7
	C. Site and Building Plan	9
	D. Project Schedule, Required Actions and Costs	23
III.	ENVIRONMENTAL SETTING	25
	A. Land Use and Zoning	25
	B. Urban Design and Visual Aspects	35
	C. Cultural and Historic Aspects	39
	D. Community Services and Utilities	40
	E. Economic Aspects	43
	F. Transportation, Circulation and Parking	49
	G. Air Quality	59
	H. Noise	60
	I. Energy	62
	J. Geology, Seismicity and Hydrology	62
	K. Endangered Species	66
IV.	ENVIRONMENTAL IMPACT	67
	A. Land Use and Zoning	67
	B. Urban Design and Visual Aspects	73
	C. Cultural and Historic Aspects	90
	D. Community Services and Utilities	90
	E. Economic Aspects and Relocation	93
	F. Transportation, Circulation and Parking	107
	G. Air Quality	130
	H. Noise	134
	I. Energy	140
	J. Geology, Seismicity and Hydrology	145
	K. Endangered Species	148
	L. Growth Inducement	148
	M. Community Concerns	150
V.	MITIGATION MEASURES PROPOSED TO MINIMIZE THE POTENTIAL IMPACTS OF THE PROJECT	153
VI.	SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED	163
VII.	ALTERNATIVES TO THE PROPOSED PROJECT	165
VIII.	EIR AUTHORS AND CONSULTANTS; ORGANIZATIONS AND PERSONS CONSULTED	180
IX.	DISTRIBUTION LIST	184

Table of Contents Continued

		Page
X.	APPENDICES.	189
A	Applicable Criteria for Planned Unit Developments. .	189
B	Architectural Evaluation Systems	190
C	Microclimate Study for the Proposed Hotel Ramada San Francisco.	192
D	Economic Aspects	205
E	Traffic and Parking.	206
F	Pedestrians.	227
G	San Francisco Air Quality.	229
H	Fundamental Acoustical Concepts.	231

LIST OF TABLES

		Page
1.	Hotel Ramada Floor Area Summary	22
2.	Schedule of Construction for the Hotel Ramada	23
3.	1980 Vehicle Volumes in the Hotel Vicinity	50
4.	1980 P.M Peak-Hour Volume/Capacity Ratios and Levels of Service	52
5.	1980 Weekday Pedestrian Volumes on Sidewalks Abutting the Project Site - Peak-15 Minute Periods	54
6.	Transit System Service Areas and Availability in the Project Vicinity	56
7.	1980 Peak-Hour Transit Ridership and Capacity	58
8.	Noise Levels Near Project Site	60
9.	Relationship Between Applicable Urban Design Policies of the San Francisco Comprehensive Plan and the Proposed Project	79
10.	Project Full-Time Permanent Employment by Category, Hotel Ramada San Francisco	96
11.	Estimated Annual Expenditures made by Hotel Ramada Guests at San Francisco Establishments	97
12.	Estimated 24-Hour Weekday Travel Generated by the Hotel Ramada	109
13.	Projected 1982 Vehicle Volumes on the Streets Surrounding the Site	112
14.	Projected 1982 Volume/Capacity Ratios at P.M. Peak Hour	113
15.	Pedestrian Impacts of Project - Noon Hour Peak 15-Minute Period	115
16.	Project-Generated Person-Trips by Transit	117
17.	1982 Projected Transit Characteristics of the Project - P.M Peak-Hour Outbound Only	118
18.	Projected Cumulative Vehicle Volumes	120
19.	Projected Cumulative Volume/Capacity Ratios at Peak Hour	122
20.	Cumulative Hotel Parking Demand and On-Site Supply	126
21.	Cumulative Pedestrian Impacts - Noon-Hour Peak 15-Minute Demand	127

List of Tables Continued

	Page
22. Projected Cumulative Public Transit Characteristics - P.M. Peak-Hour Outbound Only	129
23. 1980 Daily Project-Generated Emissions	132
24. Projected Worst-Case Cumulative Roadside Carbon Monoxide Concentration Impacts	133
25. Typical Commercial/Industrial Construction Noise Levels at 50 Feet	135
26. Mitigation Measures Proposed to Minimize the Effects of the Project	154

LIST OF FIGURES

	Page
1. Site Location Relation to the Bay Region and to Downtown San Francisco	8
2. East Elevation of the Proposed Project Viewed across Fifth St. North	10
3. Parking Level No. 1	12
4. Parking Level No. 2	13
5. Entrance Level	14
6. Lobby Level	15
7. Mezzanine Level	17
8. Functions Level	18
9. Low-Rise Guest-Room Floor	19
10. Mid-Rise Guest-Room Floor	20
11. High-Rise Guest-Room Floor	21
12. Views of the Project Site	26
13. Views of the Project Site and Buildings to be Retained	27
14. Land Use in the Vicinity of the Project	28
15. Planning Code Use Districts	32
16. Height and Bulk Districts	34

List of Figures Continued

	Page
17. Architectural Resources on and in Vicinity of Project Block	36
18. Buildings Fronting the Project Site	37
19. Downtown and Union Square Hotel Districts	45
20. Transit Lines in the Project Vicinity	57
21. Noise Measurement Locations	61
22. Major Active Faults in the San Francisco Bay Area	64
23. Cumulative Hotel Development in the Vicinity of the Project Site	68
24. View of Proposed Hotel Structures from Nob Hill at Pine and Taylor Streets	76
25. View of Proposed Hotel Structures from Potrero Hill	77
26. View of Proposed Hotel Structures from Twin Peaks	78
27. Projected Shadow Patterns at 8:00 a.m (Standard Time)	86
28. Projected Shadow Patterns at 12:00 noon (Standard Time)	87
29. Projected Shadow Patterns at 4:00 p.m. (Standard Time)	88
30. Access Patterns at the Project Site	110
31. Cumulative Hotel Access in the Vicinity of the Project Site	124
32. Electric Power Consumption Profile	142
33. Natural Gas Consumption Profile	144
34. Reduced-Height Alternative - Site Plan	167
35. Reduced-Height Alternative - Isometric View	168
36. Two-Tower Alternative - Site Plan	172
37. Two-Tower Alternative - Isometric View	173
38. Artist's Rendering of the Four-Tiered Tower Alternative Viewed from Hallidie Plaza	177
39. Four-Tiered Tower Alternative-Typical High-Rise Guest-Room Floor	178

I. SUMMARY

A. PROJECT DESCRIPTION

Hallidie Hotel Venture, Inc., a General Partnership of Theme Resorts, Inc. and Ramada-Hallidie, Inc. (a wholly owned subsidiary of Ramada Inns, Inc.) proposes to construct a 1,000-room hotel on Lots 11, 12, 15, 16, 17, 18 and 25 in Assessor's Block 330, bounded by Fifth St. North and Eddy, Mason and Ellis Sts. The remainder of the block contains the 124 Mason St. apartment building and the Olympic Hotel on Lots No. 13 and 14. Neither of these buildings is part of the proposed project; both would be retained. The proposed 32-story, 611,400 gross sq. ft. (above ground, excluding mechanical and parking space) Hotel Ramada would consist of two underground parking levels; a four-story 70-ft. high, U-shaped base building; and an L-shaped guest-room tower with two stepbacks which would divide the hotel into low-, mid- and high-rise levels. The height of the building would range from 70 ft. at the base building to 130 ft. at the stepback of the low-rise tower level at Eddy St. and Fifth St. North, to 210 ft. at the stepback of the mid-rise tower level at Fifth St. North, to 320 ft. at the high-rise tower level on Ellis St.

A covered entrance driveway plaza, located at the southeastern corner of the site and fronting on Hallidie Plaza, would contain the vehicular-arrival and luggage-handling area. Entrance ramps to the underground parking levels, a charter- and tour-bus waiting driveway, and three truck docks would be situated in the southwestern corner of the site. Guests would pass through the entrance driveway to the lower Entrance Lobby, containing the convention registration desk, where they would take an escalator to the Lobby Level on the floor above. The Lobby Level would contain the Grand Lobby, the hotel guest registration area, a garden-style coffee shop, a specialty restaurant, and a cocktail lounge. Retail uses would be located on the Ellis St. frontage. Above the Lobby Level would be the Mezzanine Level, containing public function space, the hotel's administration offices, and a health club.

The Functions Level would be located above the Mezzanine level and would contain the Grand Ballroom, a smaller ballroom, and public function spaces.

An enclosed sundeck would be located on the roof of the base building west of the low-rise tower. There would be landscaped terraces on the roofs of the base building near Eddy St. and the low- and mid-rise tower levels. Street trees would be planted on Mason, Eddy and Ellis Sts. and Fifth St. North.

Demolition of the parking lot and buildings on the site, containing a bar, adult bookstore, Fotomat and shoeshine stand, proposed to begin in late 1980, would take about one month. Excavation and construction would then continue for approximately 23 months until project completion and occupancy in 1982.

B. ENVIRONMENTAL EFFECTS

The proposed hotel uses would be generally compatible with the residential hotel and apartment uses that would remain on the project block. The project sponsor has applied for a Conditional Use authorization as a Planned Unit Development (PUD), because the floor area of the project would exceed the 10:1 Basic Floor Area Ratio of the site plus the probable allowable bonuses (rapid-transit proximity, multiple building entrances, sidewalk widening, shortened walking distance, and parking access) by about 42,000 gross sq. ft. The proposed hotel would not conform to the bulk limitations of the City Planning Code, because the diagonal measurement at the mid-rise tower level of approximately 240 ft. exceeds the 200-ft. maximum permissible dimension by 40 ft., and the length on Ellis St. exceeds the allowable 170 ft. by approximately 5 ft. The low-, mid-rise and high-rise towers of the project would be within the maximum allowable height limits for the 320-I and 160-G Height and Bulk Districts in which they are located. As a PUD, the proposed project could be granted a modification of certain provisions of the Code under Section 304(a) of the City Planning Code. Cumulative effects of the project and the proposed Hilton Tower No. 2 and Holiday Inn on adjacent blocks could include changes in some businesses in the Tenderloin District from resident-serving to tourist-serving, and an increase in property values and rents.

The project would not require the demolition or alteration of any structure that has received recognition for architectural merit. The stepped-back configuration of the proposed hotel is intended to provide a visual transition from the neighboring Hilton Hotel and Tower and from the proposed larger-scale hotel structures (Holiday Inn and Hilton Hotel Tower No. 2) north and northwest of the site to the smaller-scale structures to the east, south and west of the site. The proposed Hotel Ramada would not intrude as a dominant element on the San Francisco skyline as seen from most vantage points. Cumulatively, the three hotel developments, if built, would intensify the density of development in the immediate area and would increase its visual identity as a visitor-serving area.

The project would contribute to the shadowing of sidewalks on Ellis, Mason and O'Farrell Sts. and Fifth St. North; the project would shade a portion of Hallidie Plaza in early evenings in June and early July, adding to more extensive shading by One Powell St. The proposed enclosed sundeck would be shaded by the upper portion of the project during early morning hours at all times of the year. The project would increase northwesterly wind speed ratios on the west side of Fifth St. North and at the intersection of Fifth St. North and Ellis St., and would reduce wind speed ratios at the intersection of Ellis and Mason Sts. Under westerly wind conditions, wind speed ratios would increase at the intersection of Eddy St. and Fifth St. North and along Eddy St. Wind speed ratios would decrease on Fifth St. North.

Construction of the project would require demolition of about 14,400 gross sq. ft. of retail space, of which about 2,250 gross sq. ft. is currently occupied. About 150 parking spaces and a Fotomat kiosk would be removed. The existing transient-tourist hotel and apartment structures on the project block, employing about 23 persons, would be retained. The project would provide about 310 person-years of construction employment, and would create about 615 new permanent jobs and about 50 to 70 occasional part-time jobs in San Francisco; many of these permanent jobs would be expected to be filled by minorities. Most of these permanent jobs would be unskilled and semi-skilled positions which would provide employment opportunities for current residents of San Francisco. Construction and operation of the project would increase demands for water, sewer services, solid waste disposal, and police and fire

protection. The demands could be met by the existing systems and would not require additional personnel, equipment or facilities.

The project is expected to generate between $1.3 and $1.4 million in net property, hotel, sales, payroll and franchise taxes annually to the City and County of San Francisco. The 1,000 guest rooms in the proposed Hotel Ramada would increase the number of hotel rooms in San Francisco; quality hotel rooms are currently in short supply. Until existing demand is met by new hotel construction, cumulative hotel development in the project area could increase the rate of conversion of older residential hotels in the Tenderloin to transient hotels, should the current moratorium on such conversions expire in November 1980. Cumulative proposed hotel development is not expected to create an oversupply of hotel rooms, according to projected hotel-room demand.

Construction trucks would temporarily increase traffic on the access streets and haul routes, particularly during peak hours. Project-generated traffic would cause increases in peak-hour traffic on adjacent streets ranging from about 3% on Ellis St. to 13% on Eddy St., and would increase peak-hour Muni ridership by about 1.0% over the projected 1982 base condition. The project would contribute to cumulative impacts on regional air quality, local traffic volumes and transit ridership. Construction-related emissions would temporarily exceed particulate standards. In the long-term, attainment of air quality standards (in particular carbon monoxide) would be impeded by increased numbers of vehicles on and around the site. Operation of construction equipment and possible pile driving would temporarily raise local noise levels near the site and contribute to cumulative noise produced by construction of the proposed Hilton Tower No. 2 and Holiday Inn in the vicinity.

Site preparation, project construction activities and fabrication of materials would require a substantial, but unknown, amount of energy during the two-year construction period. During project operation, the Hotel Ramada would require about 12 million kilowatt hours of electricity per year, used primarily for ventilation and cooling, and about 110 million cubic feet of natural gas per year, used primarily for heating. Project-generated traffic would use an

estimated 500,000 gallons of gasoline and 230,000 gallons of diesel fuel per year.

A shoring system would be required to support a 30-ft.-deep excavation pit at the project site. The site could be subject to "strong" to "very strong" ground shaking during earthquakes. The building would be designed to meet the most stringent earthquake standards of both the San Francisco Building Code and the Uniform Building Code.

The proposed 1000 hotel rooms of the Hotel Ramada would constitute about a 7% increase in quality hotel space in downtown San Francisco and an 11% increase in the Union Square hotel district. The tourist industry would be stimulated by the cumulative hotel development proposed in the area. New employees of cumulative hotel development would increase the demand for housing in the Bay Area. The project-related demand for housing in San Francisco is estimated to be about 140 dwelling units.

C. MITIGATION MEASURES

The project tower would be stepped back to help provide a transition in scale from 320 ft. to the smaller buildings in the vicinity of the site. Mitigation measures such as internal security and fire protection systems, a trash compactor, and a recycling program are proposed to minimize demands on community services. Solar collectors on the roof would be used to heat hot water for the building. The building design would have less than the maximum allowable window area to conserve energy.

The project sponsor would be willing to participate in a fair and appropriate mechanism to fund expanded peak-hour transit services, should such a funding mechanism be developed by the City. BART and Muni passes would be sold on-site to employees to encourage the use of transit. The project sponsor would implement a system for employee working hours to reduce peaks of congestion on the City transportation system. Adequate bicycle parking facilities would be provided for employees.

To reduce construction effects, unpaved surfaces would be wetted during excavation to hold down dust. The loads of haul trucks would be covered to reduce spillage; streets adjacent to the site would be swept to remove dirt. If piles were driven, the project sponsor would meet with the Bureau of Engineering to determine measures to mitigate noise from piledriving.

D. ALTERNATIVES TO THE PROPOSED PROJECT

The no-project alternative would preserve options for future development at the site. Existing conditions, described in III.A-III.K, pp. 25-66 of this report, would generally continue.

The proposed project could be modified so that the height of the proposed hotel tower would be reduced. A 16-story guest-room tower could be constructed above the base building, for a total project height of 250 ft. This 590-guest-room alternative would not exceed the 10:1 Basic Floor Area Ratio on the site and would not require floor area bonuses.

An alternative could be developed on the site which would include apartment units, hotel guest rooms and public function space. The base building would contain the same lobby, public meeting and function areas as the proposed project. Forty 600-sq. ft. one-bedroom apartments could be constructed on four floors of a 140-ft. tower fronting on Eddy St. A second 320-ft. tower containing 28 floors of guest rooms at about 22 rooms per floor, could be situated fronting on Ellis St. opposite the Eddy St. tower; the Ellis St. tower would contain a total of about 620 guest rooms.

The project design could be revised to add another tower setback, providing a series of more gradual transitions from one element to another, and to step back the tower at the corner of Mason and Ellis Sts.

II. PROJECT DESCRIPTION

A. OBJECTIVES OF THE PROPOSED PROJECT

Hallidie Hotel Venture, Inc., a General Partnership of Theme Resorts, Inc., a development company, and Ramada-Hallidie, Inc. (a wholly owned subsidiary of Ramada Inns, Inc., which operates hotels throughout the United States) proposes to construct and operate a 1,000-room hotel in downtown San Francisco. The project, designed by DMJM / Curtis and Davis, Architects, is intended by its sponsor to provide hotel rooms for the visitor and convention trade, and to provide a fair return on invested capital. Major hotels in San Francisco now frequently operate at capacity, having average occupancy rates of over 80%, and the demand for hotel rooms in the City is expected to increase with the completion of the George R. Moscone Convention Center in 1981.

B. LOCATION OF THE PROPOSED PROJECT

The proposed hotel would be located on a portion of Assessor's Block 330, bounded by Fifth St. North and Eddy, Mason and Ellis Sts. (see Figure 1). The portion of the block west of Fifth St. North is divided into nine parcels and the project would entirely occupy Lots 11, 12, 15, 16, 17, 18 and 25. These parcels currently contain a 150-space parking lot, a shoeshine stand, Fotomat kiosk and two low-rise buildings, which would all be demolished. The remaining parcels, Lots 13 and 14, contain the 36-unit 124 Mason St. apartment building and the 85-room Olympic transient-tourist hotel, both fronting on Mason St.; these two structures are not part of the proposed project site and both would be retained.

The site is about two blocks south of the San Francisco Theater District on Geary St. and about three blocks southwest of Union Square. The site is adjacent to Hallidie Plaza containing the Powell St. Station of the Market St.

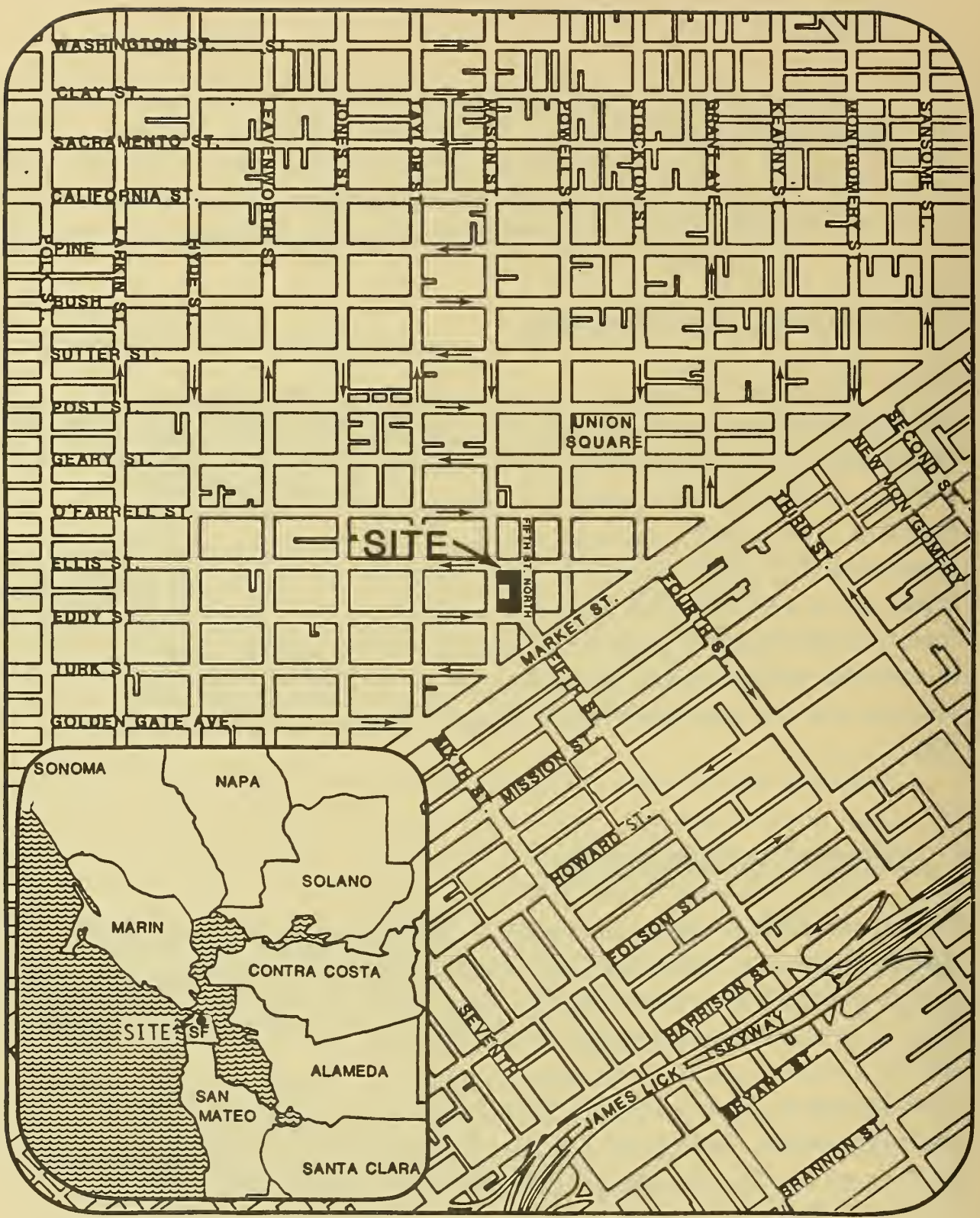


FIGURE 1: SITE LOCATION IN RELATION TO THE BAY REGION AND TO DOWNTOWN SAN FRANCISCO

subway, which serves the Bay Area Rapid Transit system (BART) and the Muni Metro light rail system. The Municipal Railway (Muni) provides service on all streets adjacent to the site. The terminus of the Powell St. cable car lines is one-half block east of the site. The Airporter bus terminal is one block west of the site. Golden Gate Transit and SamTrans lines are within four blocks. Connections to other regional transit systems including A-C Transit, Southern Pacific Railroad and the Marin ferry boats are provided by the Muni.

C. SITE AND BUILDING PLAN

The proposed 32-story hotel would contain approximately 1000 guest rooms. It would have a U-shaped configuration, with the existing Olympic Hotel and 124 Mason St. apartment building situated in the hollow portion of the U configuration on Mason St. The four-floor base building, rising approximately 70 ft. above Eddy St., would contain public function space and "back-of-house" support operations, and would form the U-shaped base of the building. Above these floors would be a three-tiered, L-shaped guest-room tower (low-, mid-, and high-rise levels). Beginning at the Eddy St. frontage, the three tower levels would be stepped back at the mid-rise and high-rise levels so that the building would be reduced in bulk and site coverage from the lowest stepback at Eddy St. and Fifth St. North to the high-rise tower fronting on Ellis St (see Figure 2). Because the site slopes up to the northwest by 10 to 15 ft., the heights of the building levels would vary with reference to each of the four street frontages. The base building would be about 70 ft. above Eddy St. at Mason St.; the low-rise guest-room tower would rise to about 130 ft. above Eddy St. at Fifth St. North at the first stepback. The mid-rise tower would be about 210 ft. above Fifth St. North at the second stepback, and the high-rise tower would be a total of 320 ft. above Ellis St., with the elevator penthouse at about 335 ft. An enclosed sundeck would be located on the roof of the base building to the west of the low-rise tower stepback. There would be landscaped terraces on the roofs of the low- and mid-rise and tower levels. Street trees would be planted along Mason, Eddy and Ellis Sts. and Fifth St. North.

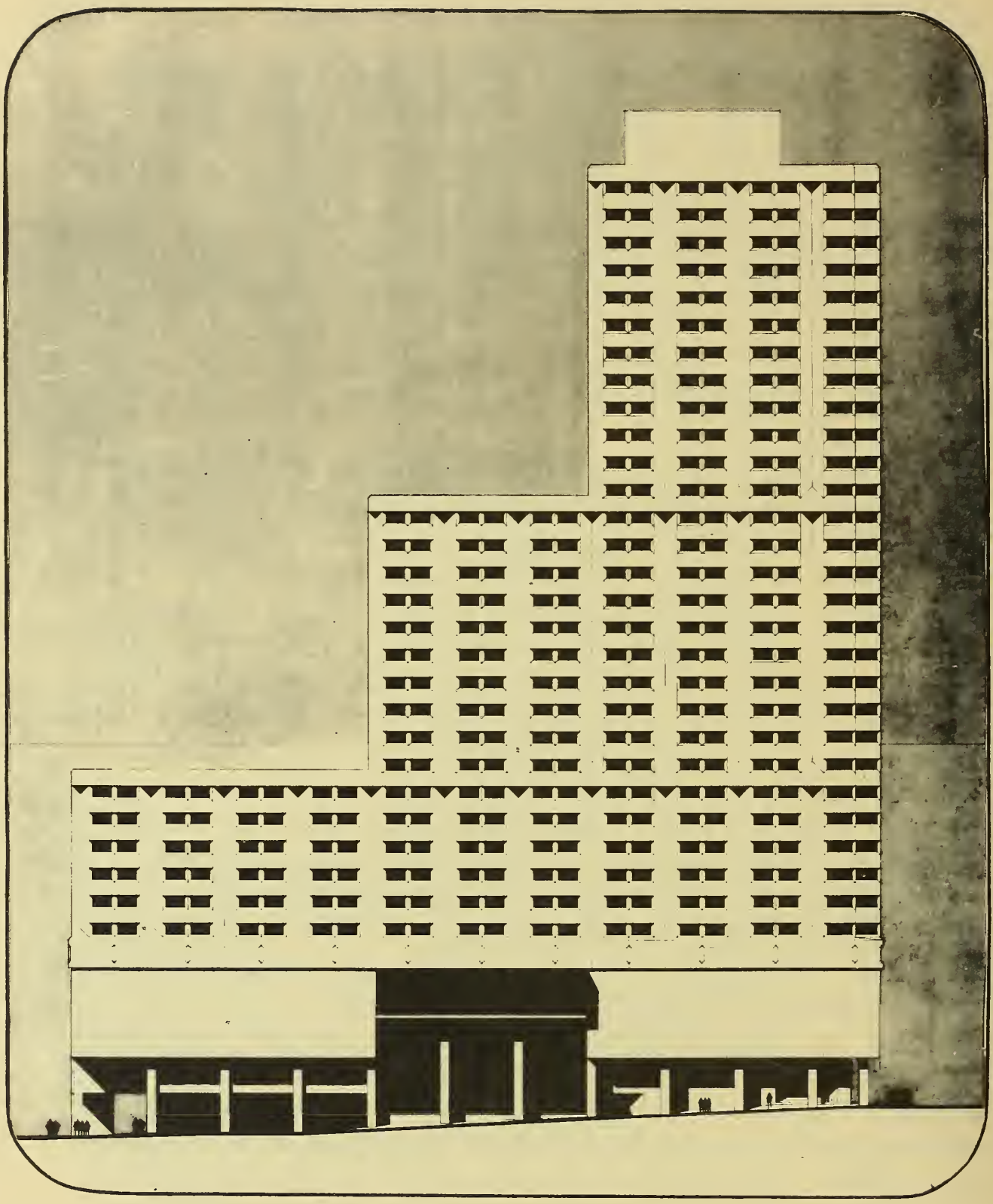


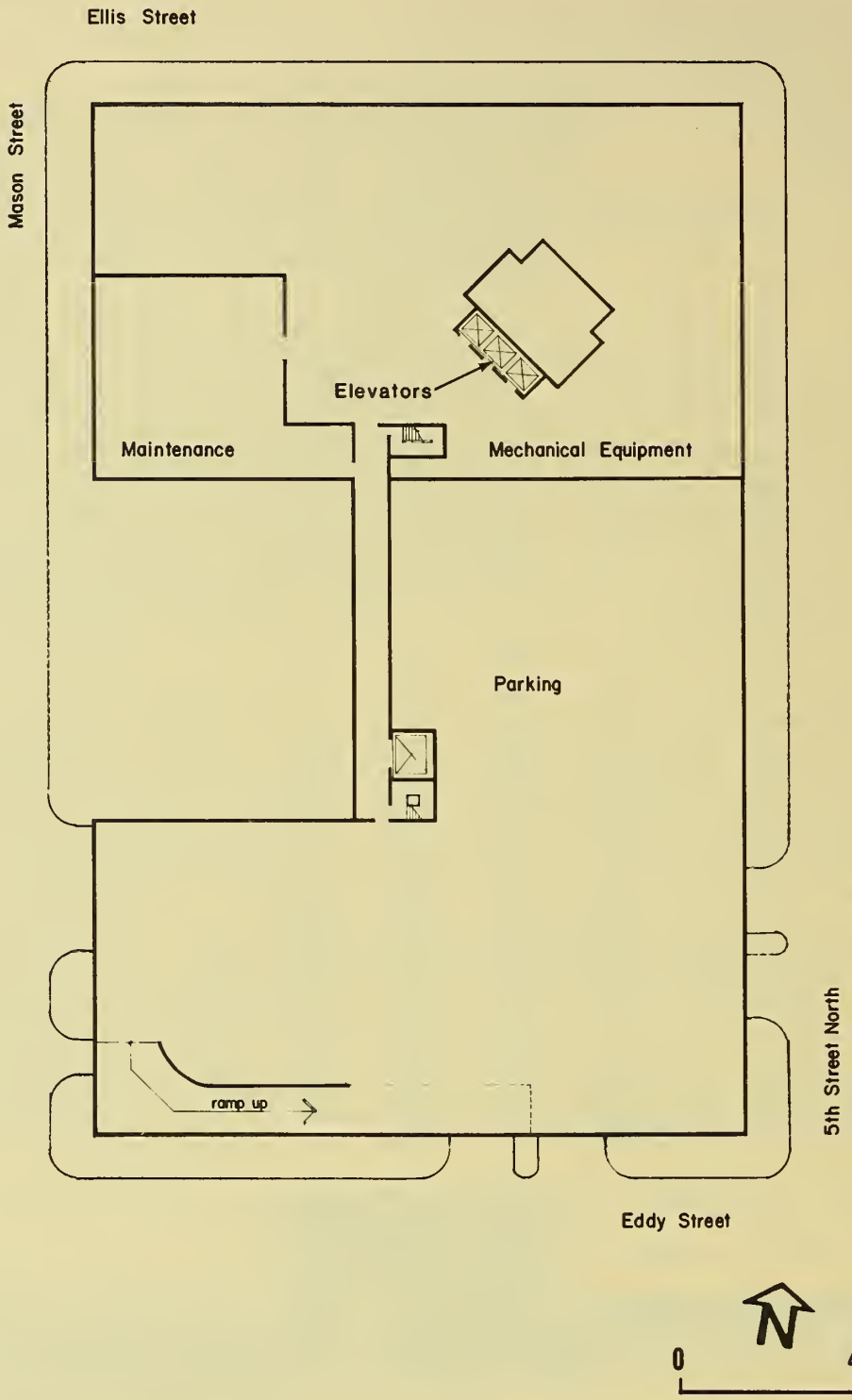
FIGURE 2: EAST ELEVATION OF THE PROPOSED PROJECT VIEWED ACROSS FIFTH STREET NORTH

Two subsurface levels fully covering the site would contain parking, mechanical equipment, maintenance and employee use areas. Approximately 42,200 sq. ft. of parking space would provide independently accessible parking for about 70 cars or valet parking for about 130 cars (see Figure 3 and Figure 4, p. 13).

The first two above-grade floors of the building would be cut away at the southeast corner of the site fronting on Hallidie Plaza at Fifth St. North and Eddy St. to provide a protected, landscaped entrance driveway for vehicles loading and unloading guests and luggage at the hotel (see Figure 5, p. 14). From the covered entrance drive, pedestrians would enter the lower lobby of the hotel on the Entrance Level where the tour and convention registration desk would be located.

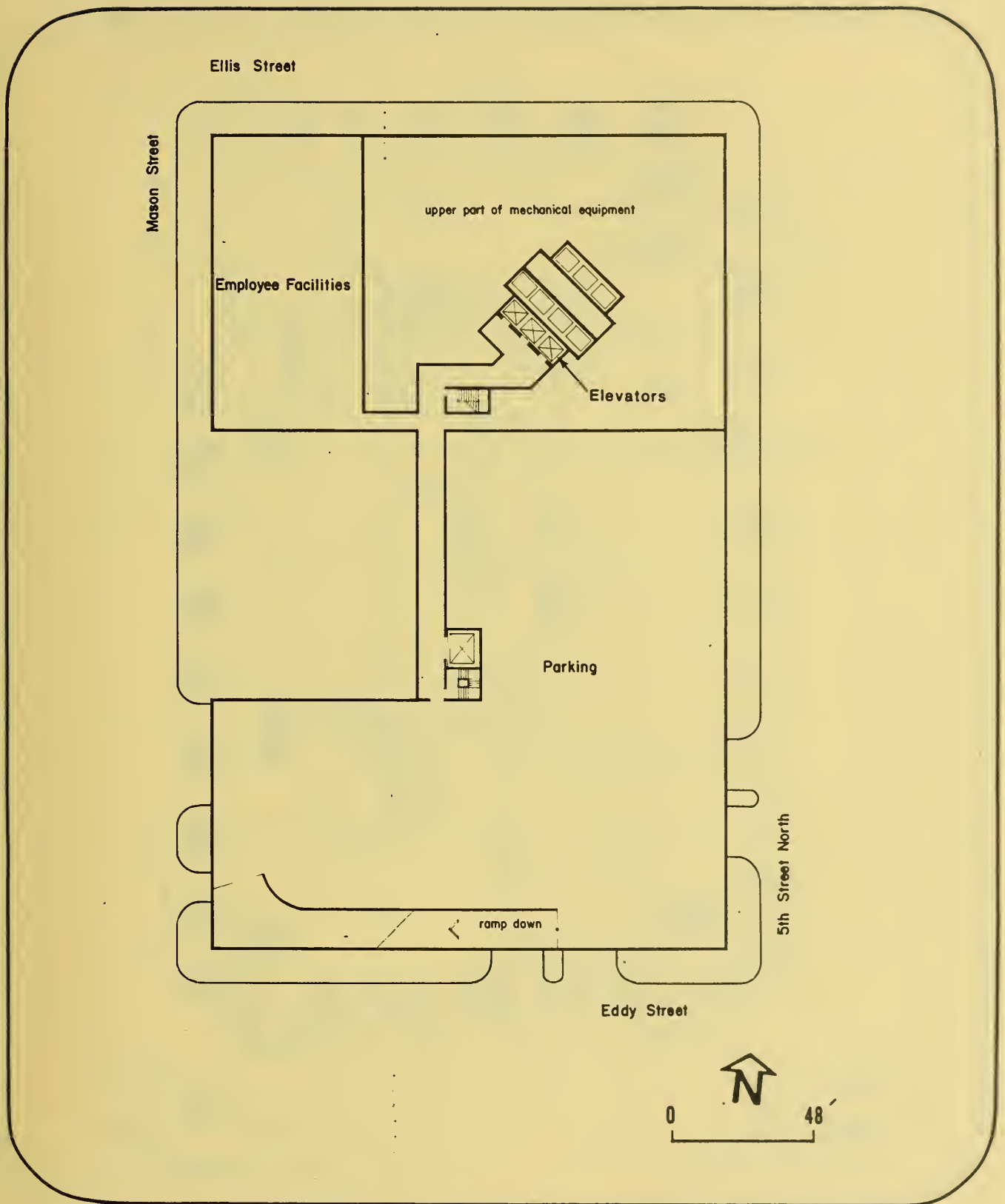
Guests and visitors would pass through the entrance driveway to the lower lobby, where they would take escalators to the Grand Lobby on the floor above. Beginning at the Entrance Level, the interiors of the lowest four floors of the hotel would be cut away to provide views of the Grand Lobby, Mezzanine and Functions Levels as guests enter the hotel. On the northern end of the block (which would be below grade due to the slope of the site) the Entrance Level would also contain a bar and grill with a separate street entrance, and housekeeping and laundry areas. The Entrance Level would contain also three truck loading docks on Mason St., a charter- and tour-bus waiting driveway and a luggage handling area.

The Lobby Level (second floor) would contain the Grand Lobby and hotel registration area (see Figure 6, p. 15). Hotel guests and visitors would be able to enter the Grand Lobby from entrances on Ellis or Mason Sts. or from the Entrance Level lobby. The Lobby Level would be designed to have a courtyard atmosphere and would have a garden-style coffeeshop, a specialty restaurant, a cocktail lounge and retail specialty shops facing the Grand Lobby entrance and registration areas. The main kitchen for the hotel would be located on this level.



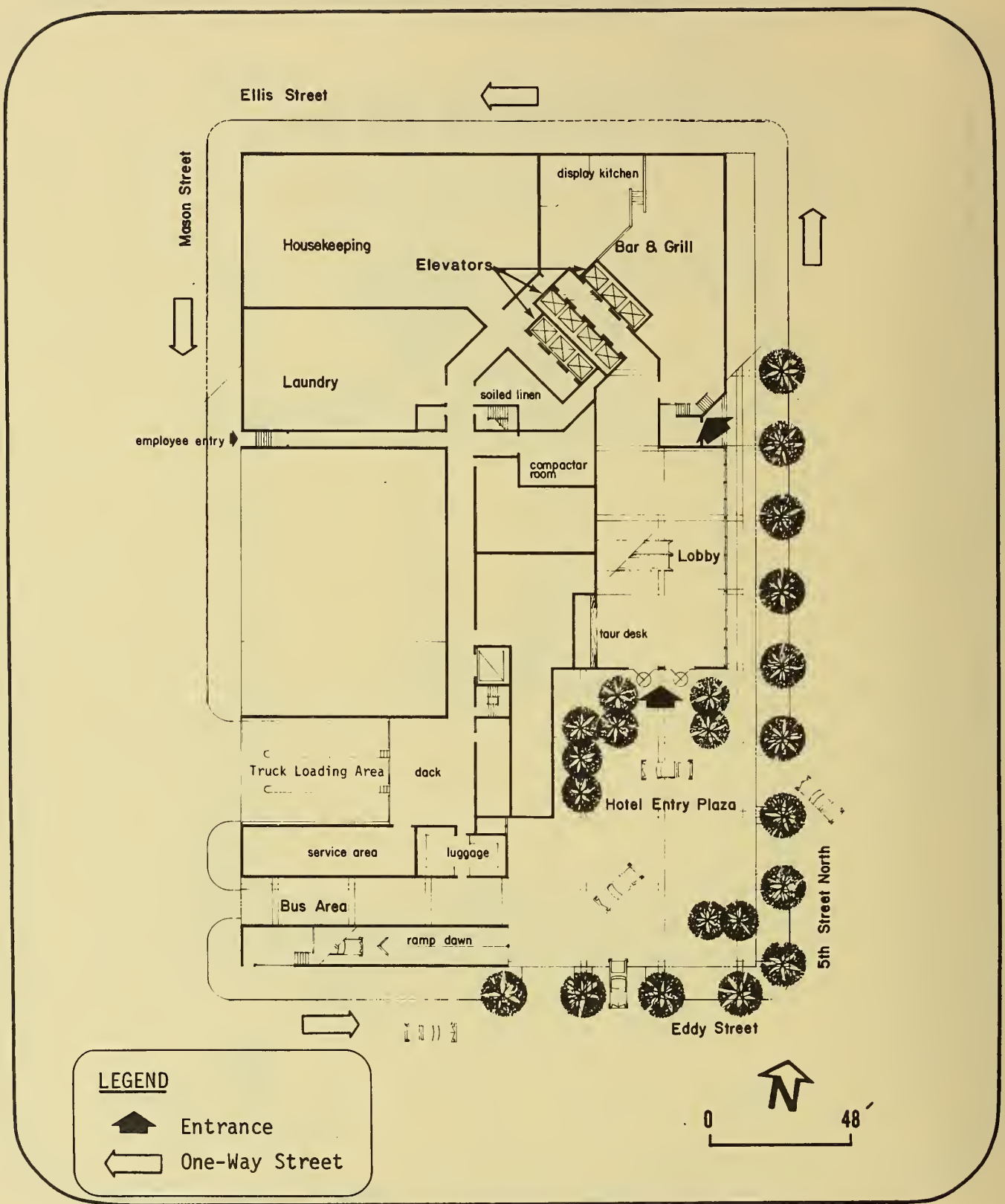
SOURCE: DMJM/CD, Architects

FIGURE 3: PARKING LEVEL NO. 1 (BELOW GRADE)



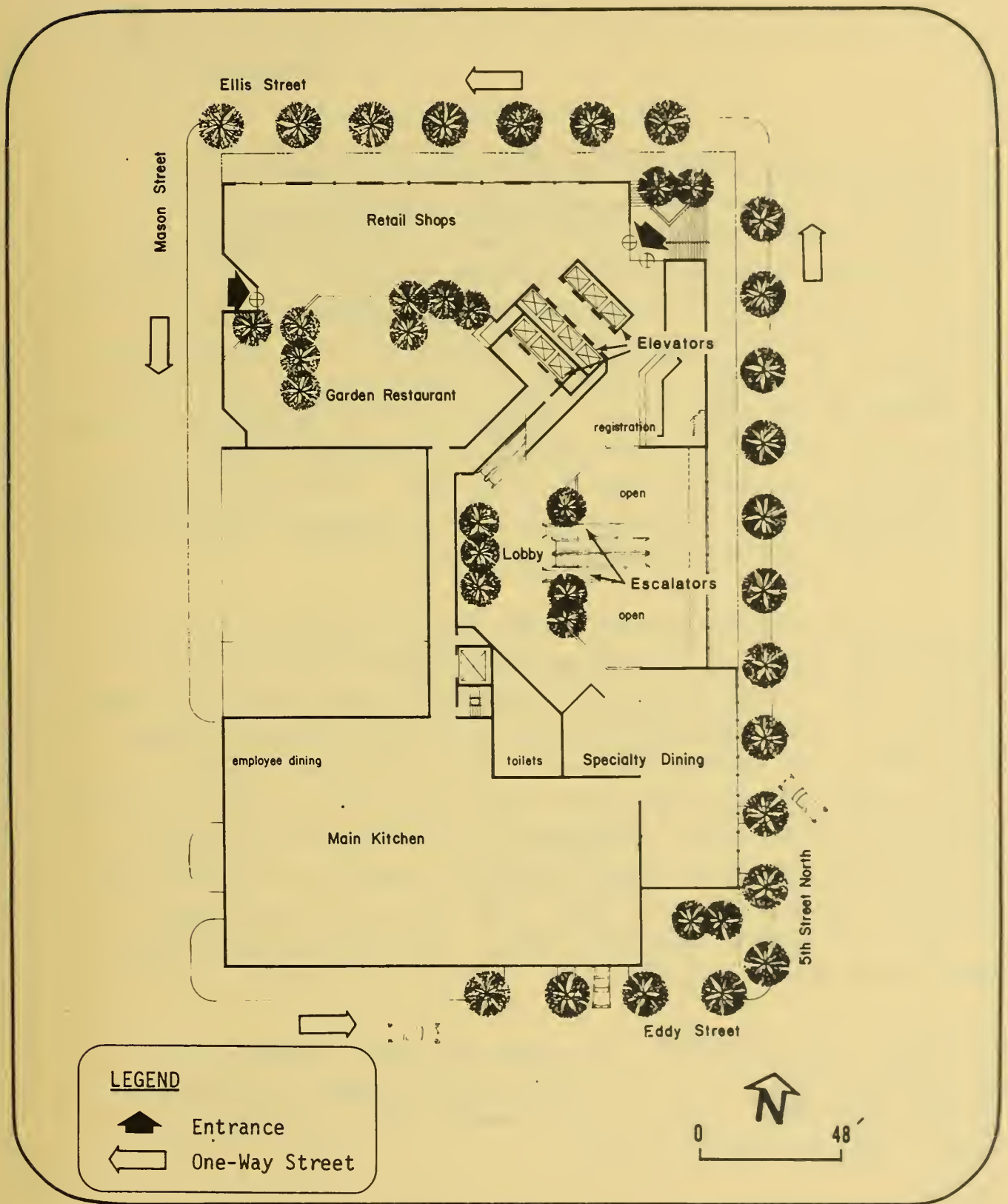
SOURCE: DMJM/CD, Architects

FIGURE 4: PARKING LEVEL NO. 2 (BELOW GRADE)



SOURCE: DMJM/CD, Architects

FIGURE 5: ENTRANCE LEVEL



SOURCE: DMJM/CD, Architects

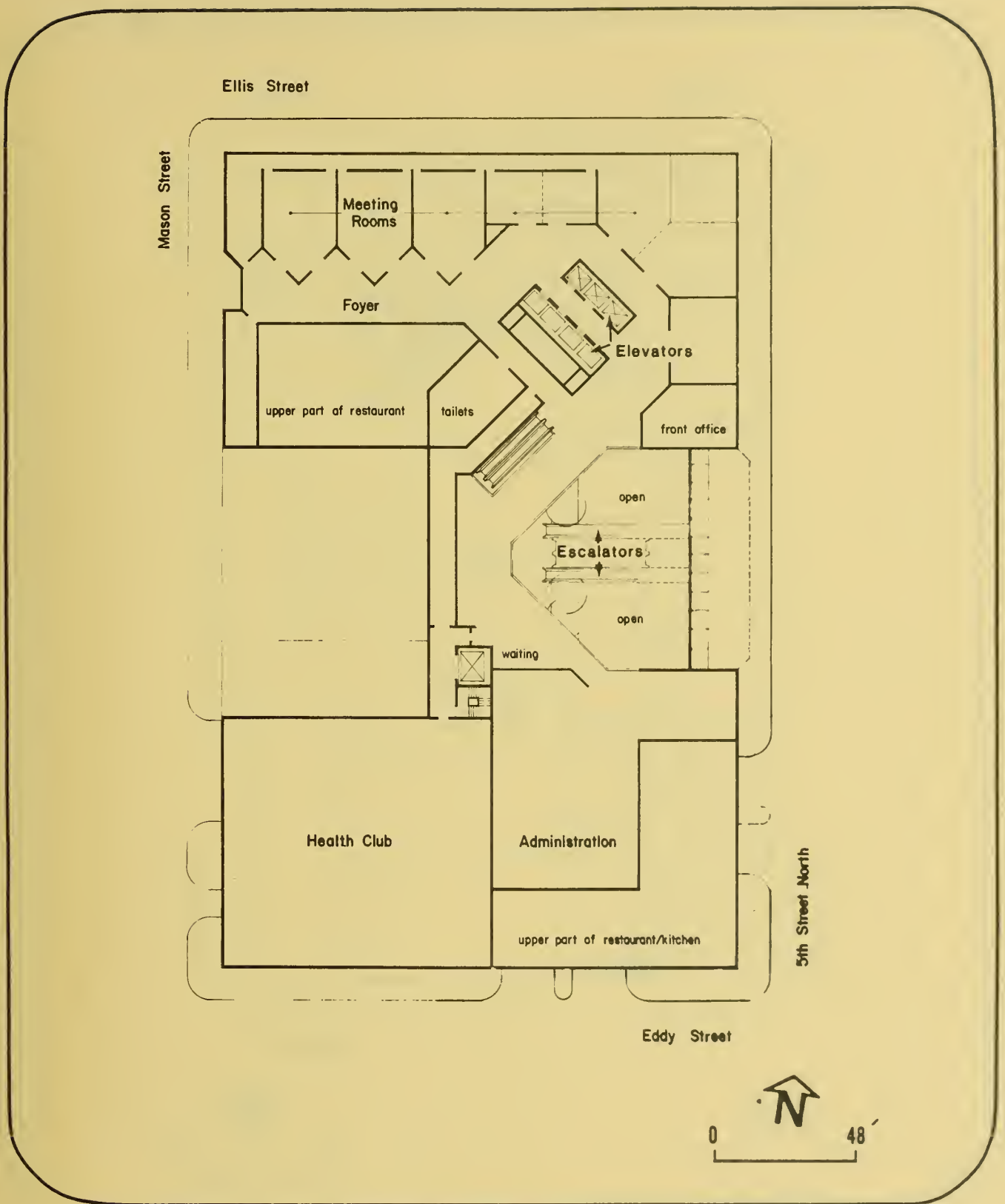
FIGURE 6: LOBBY LEVEL

The Mezzanine Level (third floor) of the proposed Hotel Ramada would be located above the Grand Lobby and would be accessible by elevators or escalators from the Grand Lobby. The Mezzanine Level would contain public function space, the administrative offices for the hotel and a health club for guests (see Figure 7, p. 17). The Functions Level (fourth floor) would contain the Grand Ballroom (see Figure 8, p. 18), with space for 700 persons at banquets, and a smaller ballroom and public function space which could accommodate 600 additional persons. Access to the Functions Level would be by escalator or elevator. Circulation on this floor would be provided by a bridge across and a balcony around the Grand Lobby. The proposed circulation on the Functions Level is intended to allow persons attending functions to mix freely without interfering with hotel operations.

Above the four-story base building would be the L-shaped low-rise levels of the guest-room tower (see Figure 9, p.19). Each floor of the six-story low-rise level of the guest room tower would have a gross floor area of about 24,250 sq. ft. and contain about 50 rooms, for a total of about 312 keyed guest rooms in the low-rise tower levels. Each floor of the ten-story mid-rise tower level would have a gross floor area of about 17,860 sq. ft. and contain about 37 guest rooms (see Figure 10, p. 20), for a total of about 370 keyed guest rooms. Each floor of the the 12-story high rise tower level would have a gross floor area of about 13,110 gross sq. ft., and contain 26 rooms, for a total of about 312 keyed guest rooms in the high-rise tower levels (see Figure 11, p. 21).

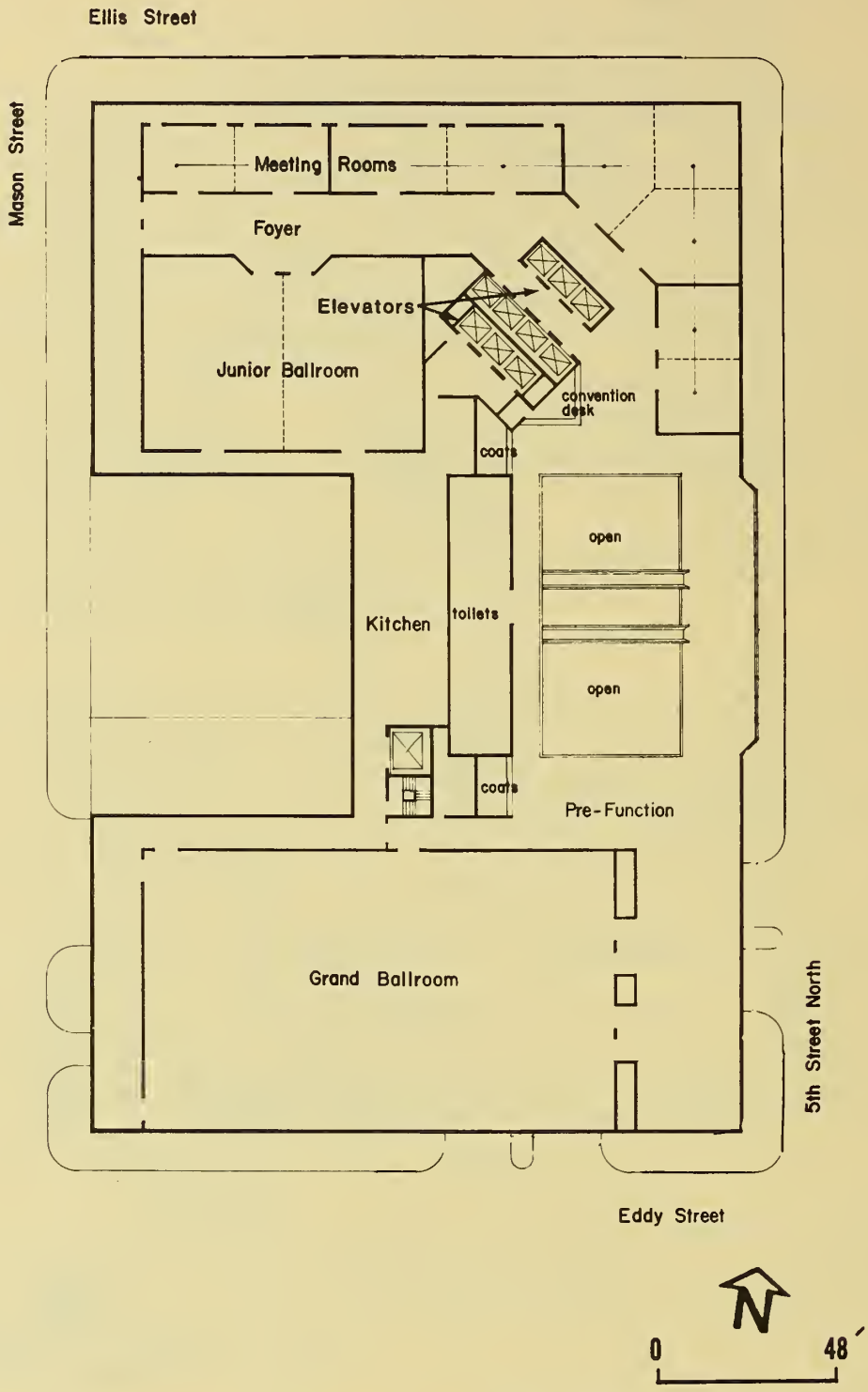
The facade of the hotel would be cast stone and duranodic aluminum with a bronze-tinted glass facade at the building base and bronze glass windows on the guest-room levels. Pre-cast concrete-veneer columns would support the building above the lower plaza levels.

The gross floor area of the proposed hotel, as defined by Section 102.8(a) of the City Planning Code (excluding the mechanical, maintenance and parking areas on the two lower levels), would be about 611,400 sq. ft. The total gross floor area would be about 680,560 sq. ft. (see Table 1, p. 22, for a summary of floor areas).



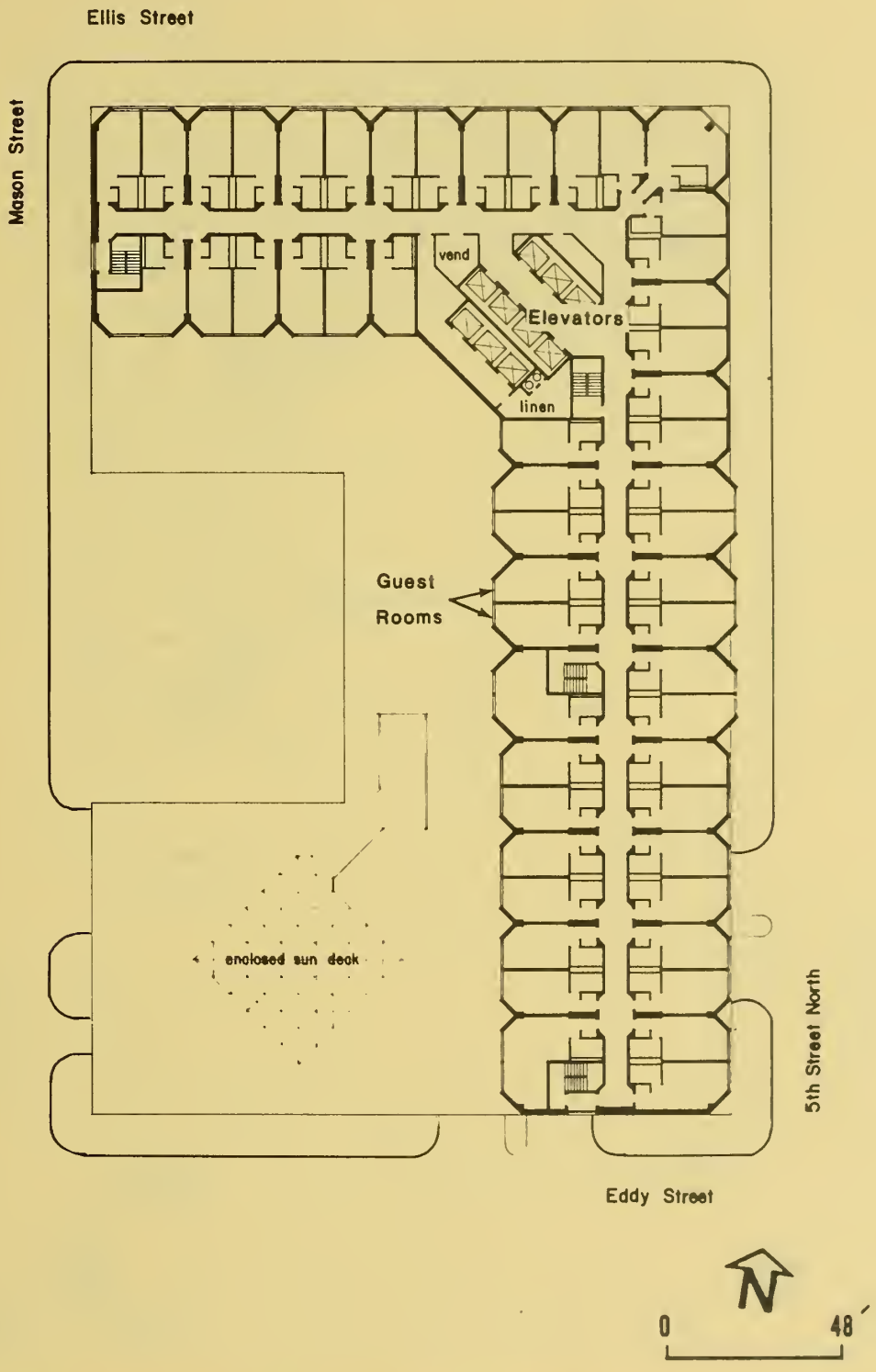
SOURCE: DMJM/CD, Architects

FIGURE 7: MEZZANINE LEVEL



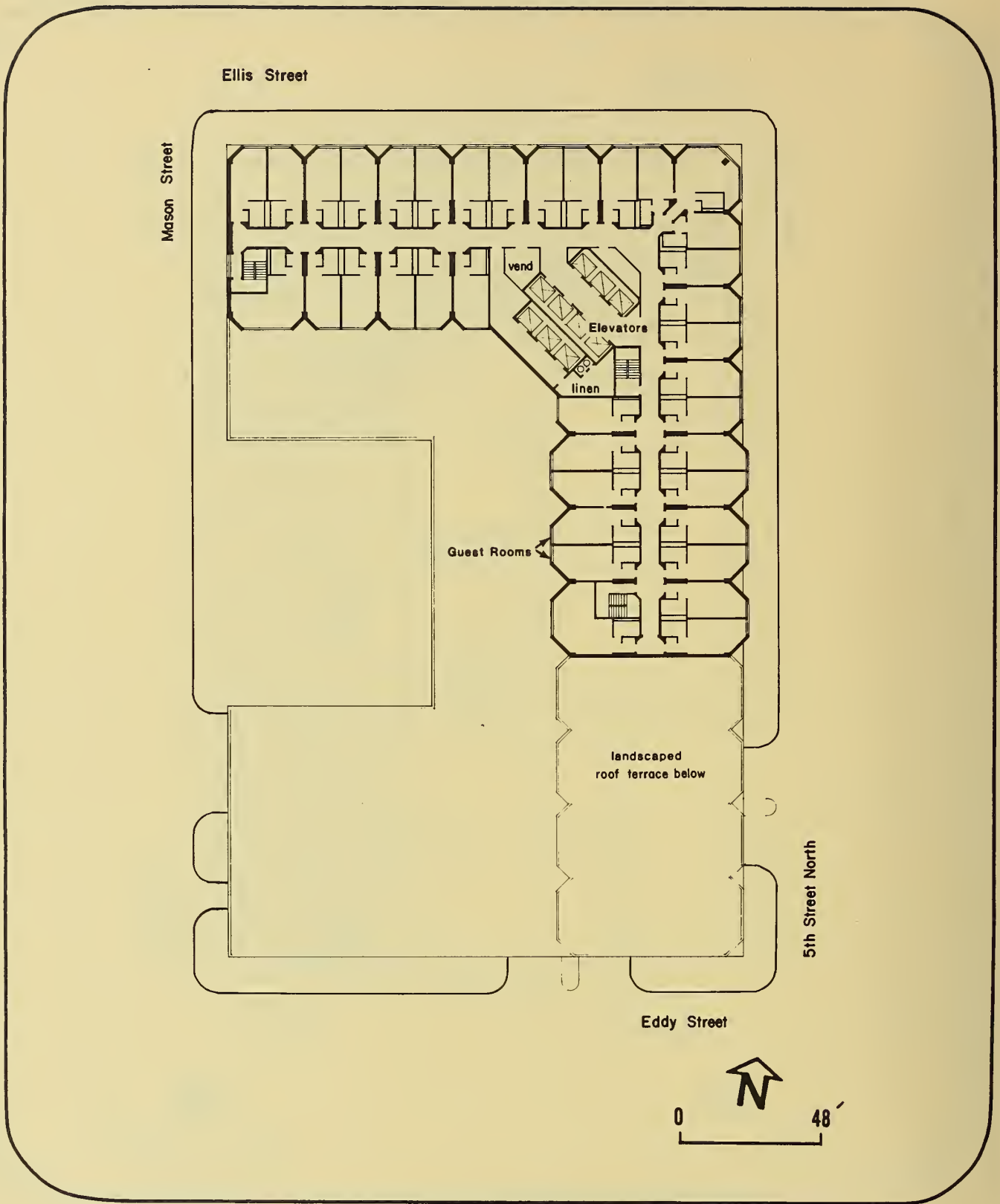
SOURCE: DMJM/CD, Architects

FIGURE 8: FUNCTIONS LEVEL



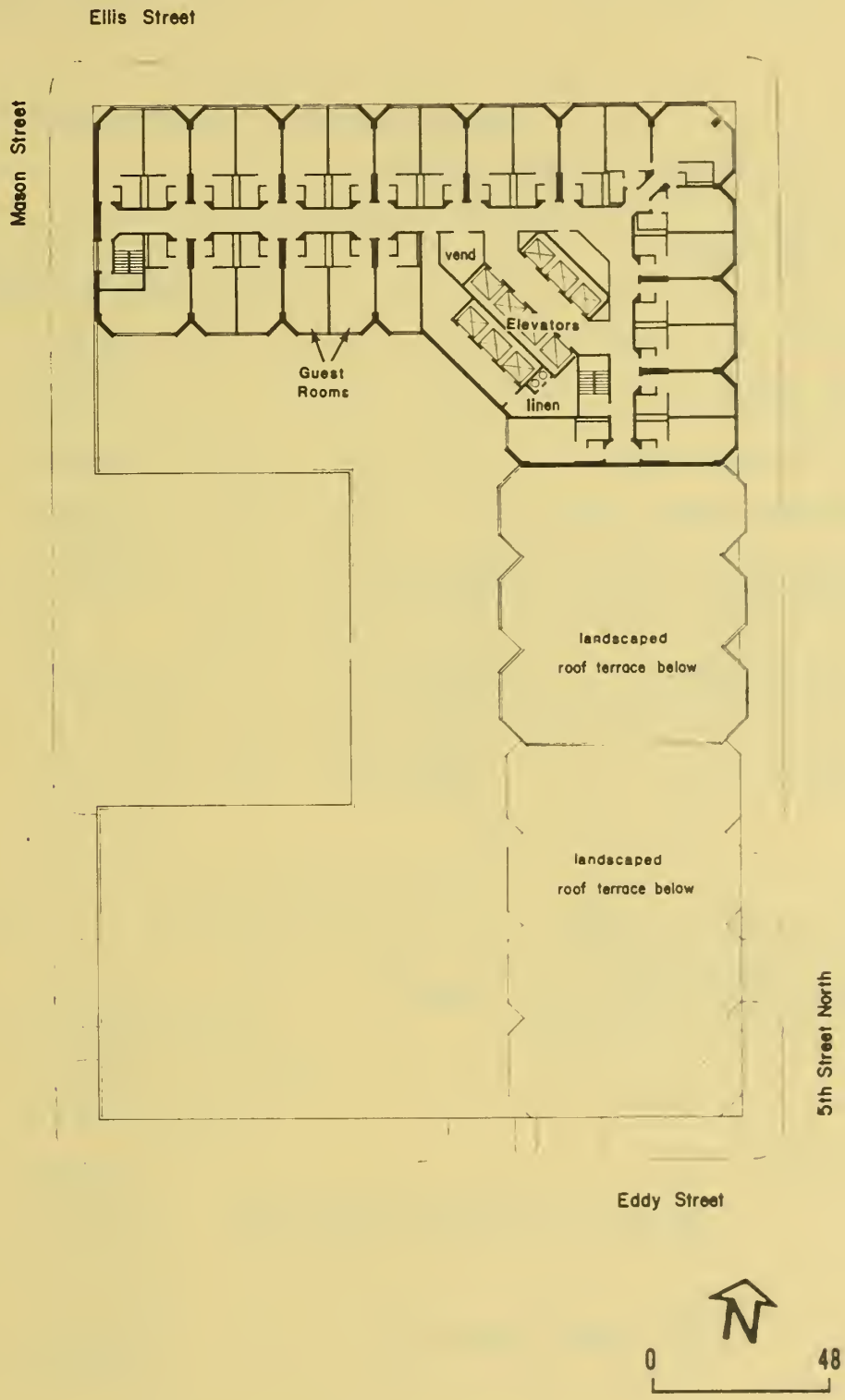
SOURCE: DMJM/CD, Architects

FIGURE 9: LOW-RISE GUEST-ROOM FLOOR (FLOORS 5 - 10)



SOURCE: DMJM/CD, Architects

FIGURE 10: MID-RISE GUEST-ROOM FLOOR (FLOORS 11 - 20).



SOURCE: DMJM/CD, Architects

FIGURE 11: HIGH-RISE GUEST-ROOM FLOOR (FLOORS 21 - 32)

TABLE 1: HOTEL RAMADA FLOOR AREA SUMMARY

HOTEL SPACE	HOTEL GROSS FLOOR AREA (Square feet)
Entrance Level (1st Floor)	28,850
Lobby Level (2nd Floor)	32,900
Mezzanine Level (3rd Floor)	29,860
Ballroom/Function Level (4th Floor)	38,450
Low-rise Guest Rooms (Floors 5 through 10 at about 24,250 sq. ft. per floor)	145,490
Mid-rise Guest Rooms (Floors 11 through 20 at about 17,860 sq. ft. per floor	178,590
High-rise Guest Rooms (Floors 21 through 32 at about 13,110 sq. ft. per floor)	157,260
HOTEL FLOOR AREA*	611,400*
MECHANICAL AND PARKING SPACE	
Maintenance and Mechanical Equipment	16,040
Parking (on 2 lower levels)	42,200
Employee Facilities	5,310
Circulation	5,610
MECHANICAL AND PARKING FLOOR AREA	69,160
TOTAL GROSS FLOOR AREA	680,560

*Gross floor area as defined by Section 102.8(a) of the City Planning Code

D. PROJECT SCHEDULE, REQUIRED ACTIONS AND COSTS

Public comment on the Draft Environmental Impact Report (EIR) and proposed project may be made in writing during the Draft EIR public review period or in person at the City Planning Commission hearings on the EIR and Conditional Use authorization. Public review and City Planning Commission certification of the EIR, and completion of the detailed design of the Hotel Ramada, are scheduled for the second half of 1980. Demolition of the two existing commercial buildings, the Fotomat kiosk and parking lot on Lots 11, 12, and 15 through 18, would begin in early 1981, after approval of a Conditional Use authorization by the City Planning Commission and issuance of site, foundation and other permits, and would be followed by excavation and construction of the project (see Table 2). First occupancy is scheduled for late 1982. The cost of the building is estimated to be about $52.4 million in 1980 dollars, including costs for land, construction, design engineering and environmental evaluation services, and interim financing.

TABLE 2: SCHEDULE OF CONSTRUCTION FOR THE HOTEL RAMADA

Building Activity Completed*	Approximate Month in Which Completed*
Demolition and Site Clearance	1
Excavation and Foundation	3
Steel Erection	10
Exterior Finishing	18
Interior Finishing	23**
Initial Occupancy	24

*Various building activities would continue concurrently. The month of the 24-month construction schedule in which the activity would be expected to be completed is given in the Table.
**Interior finishing would begin about 14 months after the beginning of demolition and site clearance work.

A Federal Department of Housing and Urban Development (HUD) Urban Action Development Grant (UDAG) to be used in the rehabilitation of 900 low-cost residential hotel units in the eastern Tenderloin has been applied for by Mayor Dianne Feinstein in conjunction with the private investment in the area in the form of the proposed Hotel Ramada. Approval or denial of the application by HUD is expected by 1 October 1980. Federal environmental review reguirements for the program have been satisfied by an amendment to the Environmental Assessment on the North of Market Neighborhood Strategy Area program which includes the rehabilitation of residential hotels in the area covered by the proposed UDAG program.

III. ENVIRONMENTAL SETTING

A. LAND USE AND ZONING

LAND USE

The site is currently occupied by the Metro Parking Lot, vacant land and buildings containing retail and entertainment businesses (see Figure 12 and Figure 13, p. 27). The buildings containing retail and entertainment establishments in the northwest corner of the block facing on Ellis and Mason Sts. were damaged in early 1980 by fire and smoke; the Spartan Adult Book Store continues to operate there. The three-story building on Eddy St. contains the Trapp cocktail lounge at street level; the upper stories are vacant. There is a Fotomat kiosk and a shoeshine stand in the parking lot at Eddy St. and Fifth St. North. The project site surrounds a seven-story and a nine-story building on three sides (see Figure 13, p.27). The seven-story transient-tourist Olympic Hotel with ground floor retail, personal service offices and entertainment establishments is on Lot 14. The nine-story building on Lot 13 is an apartment building with retail uses on the ground floor. The project site is bordered by Ellis St. on the north, Mason St. on the west, Eddy St. on the south and Fifth St. North on the east.

Half of Assessor's Block 330 is located to the east of the project site across Fifth St. North (see Figure 14, p.28). The block is occupied by one- to six-story buildings containing transient visitor hotels; a residential hotel; restaurants; retail, personal service and entertainment establishments; and offices. The southern portion of the block adjoins Hallidie Plaza, an open space area containing the Powell St. BART / Muni Metro public transit subway station and an office of the San Francisco Convention and Visitors Bureau.

Assessor's Block 326 is located north of the project site. The block is divided in half by Fifth St. North so that the western half of the block is directly north of the project site across Ellis St. and the eastern half is

A. BUILDINGS AND PARKING LOT ON ELLIS ST.
(SEEN FROM FIFTH ST. NORTH)

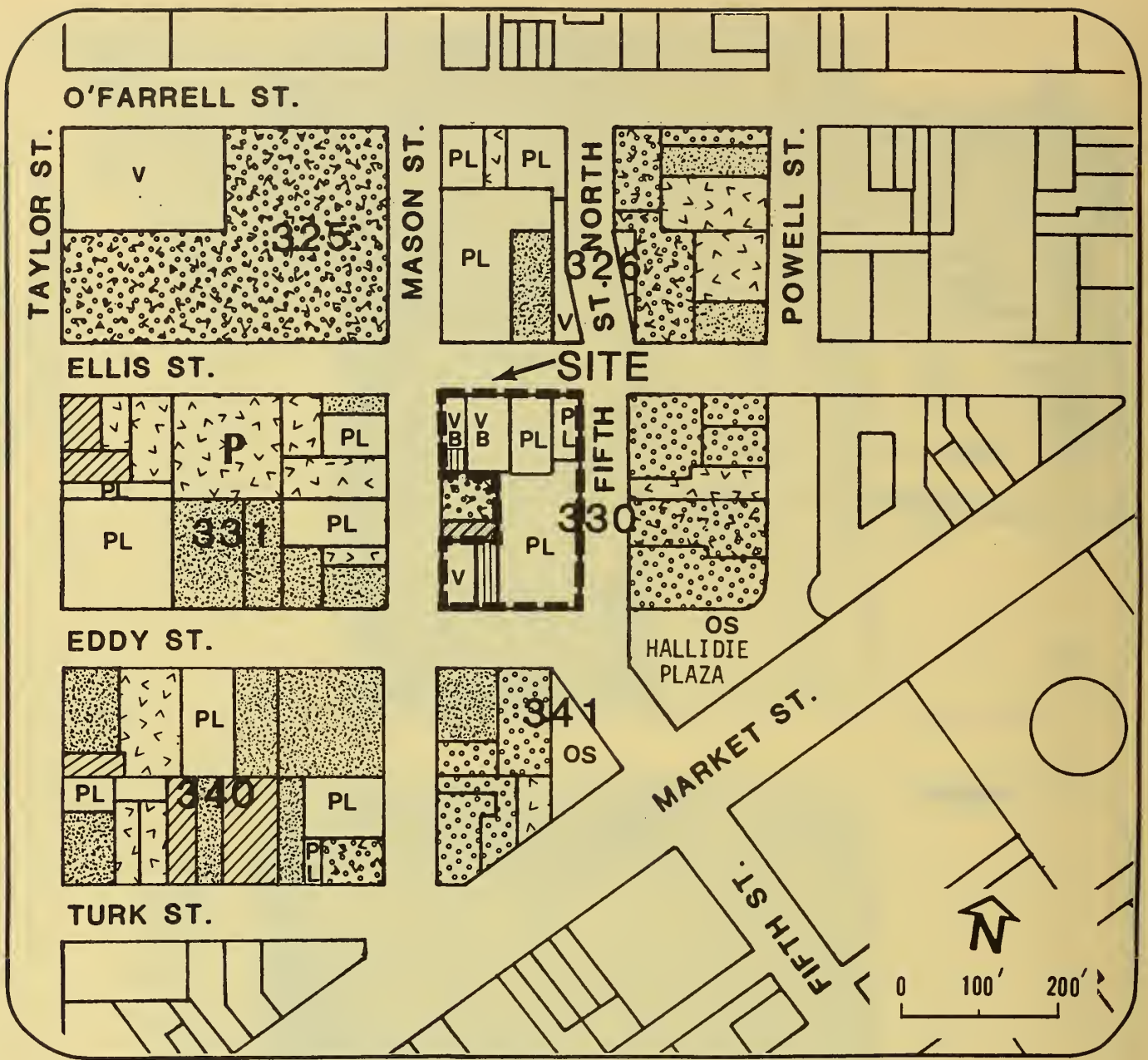
B. BUILDINGS ON MASON ST.
(SEEN FROM ELLIS ST.)

FIGURE 12: VIEWS OF THE PROJECT SITE

A. VIEW OF PROJECT BLOCK FROM EDDY ST. AND FIFTH ST. NORTH. (REAR OF APARTMENT BUILDING AND OLYMPIC HOTEL IN CENTER; HILTON HOTEL AND TOWER IN BACKGROUND)

B. VIEW OF OLYMPIC HOTEL AND APARTMENT BUILDING FRONTING ON MASON ST. (SEEN FROM ELLIS ST.)

FIGURE 13: VIEWS OF THE PROJECT SITE AND TWO BUILDINGS TO BE RETAINED



LEGEND

- RESIDENTIAL WITH GROUND FLOOR RETAIL, PERSONAL USE OR ENTERTAINMENT
- RESIDENTIAL HOTEL WITH GROUND FLOOR RETAIL, PERSONAL USE OR ENTERTAINMENT
- TRANSIENT TOURIST HOTEL WITH GROUND FLOOR RETAIL, PERSONAL USE OR ENTERTAINMENT
- OFFICE WITH GROUND FLOOR RETAIL OR PERSONAL USE
- RETAIL OR PERSONAL SERVICE
- ENTERTAINMENT
- OFFICE
- P — PARKING STRUCTURE
- PL — PARKING LOT
- PARKING STRUCTURE WITH RETAIL OR PERSONAL USE
- I — INSTITUTION
- OS — OPEN SPACE
- V — VACANT LOT
- VB — VACANT OR DAMAGED BUILDING

SOURCE: Environmental Science Associates, Inc.

FIGURE 14: LAND USE IN THE VICINITY OF THE PROJECT SITE

northeast of the project site, diagonally across the intersection of Ellis St. and Fifth St. North. The western half of Block 326 facing the project site is occupied by a parking lot, a car rental office, a vacant lot and the seven-story Maria Manor residential apartments for the elderly with ground-floor retail establishments. The remainder of the block contains a parking lot and a three-story building containing a retail establishment. The block is the site of a proposed 320-ft.-high, 1000-room Holiday Inn transient-tourist hotel (EE 79.283). East of Fifth St. North, the block is occupied by one- to seven-story buildings containing visitor and residential hotels with street-level retail shops, restaurants, personal services establishments and cocktail lounges.

Assessor's Block 325 is located northwest of the site, diagonally across the intersection of Ellis and Mason Sts. The block is occupied by the Hilton Hotel and Tower, including retail shops, restaurants and cocktail lounges. The northwest corner of the block is a vacant lot and is the site of a proposed 320-ft.-high 410-room addition to the hotel (Hilton Tower No. 2 EE 79.257).

Assessor's Block 331 is located directly west of the project site across Mason St. The eastern side of the block facing the project site contains parking lots and one- to five-story buildings. The buildings are occupied by street-level cocktail lounges, entertainment facilities, personal service establishments, restaurants and a residential hotel. The remainder of the block is occupied by a parking structure, two- to six-story buildings containing residential hotels and apartments with street-level retail and personal services establishments, entertainment facilities and restaurants.

Assessor's Block 340 is located southwest of the project site, diagonally across the intersection of Eddy and Mason Sts. Uses on the block include four parking lots, a transient tourist hotel, retail shops and personal services offices, restaurants, cocktail lounges, entertainment establishments, residential hotels and apartments. Buildings are two- to seven-story structures, generally with commercial establishments at street level and residential uses in upper floors.

Assessor's Block 341 is located directly south of the project site across Eddy St. The block includes Hallidie Plaza which is on either side of Fifth St. North. The block is occupied by one- to eight-story buildings including a residential hotel, offices, restaurants, cocktail lounges, and retail and personal services establishments.

Tenderloin Community Characteristics. The project site is in a transition zone between two areas of different character: this portion of the Tenderloin is located between the hotel and retail district to the north and east, and the Tenderloin residential area to the west and south. The hotel and retail district has hotels, retail establishments, personal services offices and businesses oriented primarily to tourists and middle- and upper-income residents of San Francisco and the Bay Area. The established Theater District is located along Geary Street two blocks northwest of the site. Many tourist-oriented businesses are located in the area along Powell Street. Many tourist hotels are located in that area and to the north of the site. By contrast, the Tenderloin area to the west and south of the site has retail stores, personal services establishments, residential hotels primarily occupied by low-income (including many elderly) residents, cocktail lounges, restaurants and adult-entertainment facilities. With the exception of some entertainment facilities, hotels and restaurants, many businesses are oriented to neighborhood residents and to low-income patrons.

The Tenderloin contains approximately 20,000 residents; nearly one-third are transients. Located in San Francisco's most densely built neighborhood, about 60% of the residential buidings contain 50 or more units. The area is characterized primarily by immigrants, the elderly, low-income families, and transients./1/ In 1976, nearly one-quarter of the residents received an average monthly income of less than $250./2/ At least 60% of the households were on fixed incomes or public assistance. About 86% of the households consist of single persons; about 38% of the residents are over 60 years old./3/

Census data show that, in 1970, more than 80% of the Tenderloin residents were White. Rising rents and demolition of housing units in the Western Addition and Chinatown have caused a steady influx of Blacks and Chinese-Americans. In

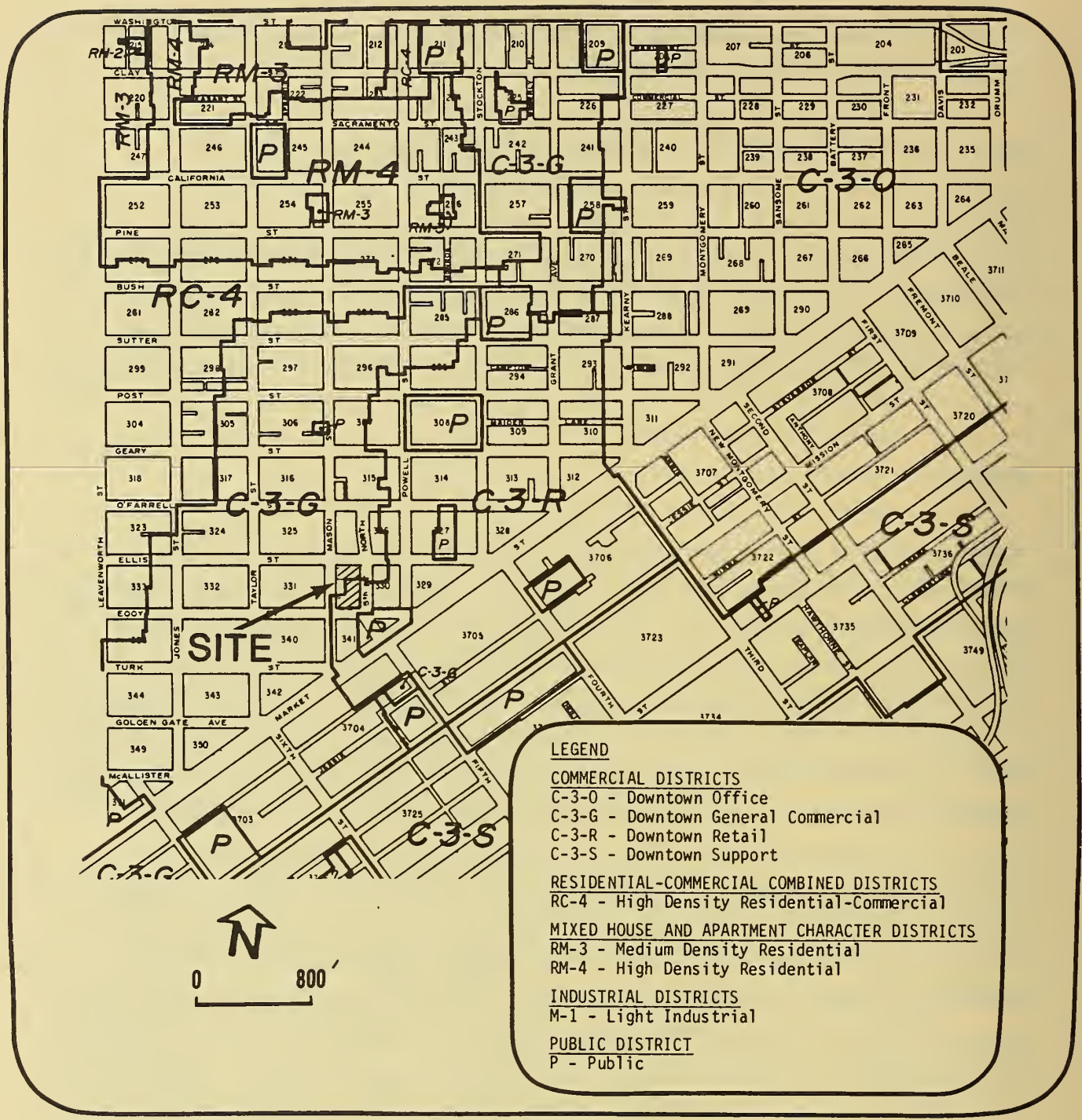
addition, relocation agencies are locating around 200 incoming Indochinese refugees monthly in the Tenderloin./1/

Most Tenderloin housing is in multiple-unit apartment buildings and residential hotels. Of the approximately 14,000 units, about 57%, or 8,000 units consisted of hotel rooms. Currently, 16% of the residential hotel units in the area are vacant due to poor condition or because the owners do not choose to rent them. About 58% of the occupied housing units were found to be substandard in 1976. About 86% of the Tenderloin housing units are renter occupied, with rents for one-bedroom units ranging from $130 to $170./3/

ZONING

The project site is located in two City Planning Code Use Districts (see Figure 15). The northern portion of the site is located in a C-3-G, Downtown General Commercial, zone. A variety of uses are permitted in this zoning district, including hotels, retail, offices, entertainment, clubs and institutions, and high-density residential development. The southern portion of the site is located in a C-3-R, Downtown Retail, district. Continuity of retail and consumer-service uses is emphasized in the district and features of pedestrian interest and amenities are encouraged; hotels are a permitted use./4/ The basic permitted Floor Area Ratio for both Planning Code Use Districts is 10:1, i.e., buildings may have a floor area (excluding mechanical and parking space) of up to ten times the area of the site. Under a bonus system established by Section 126 of the Planning Code, additional space is permitted as specified for design features that improve pedestrian and transit access to the building and offer amenities such as multiple entrances, parking access, plazas and widened sidewalks. On 27 May 1980 the Board of Supervisors established a moratorium on the use of this section of the City Planning Code; the proposed project was exempted from this moratorium, in effect, by an authorization for hotels to file for a conditional use.

No off-street parking is required for individual commercial buildings in the C-3-R or C-3-G districts; accessory parking is permitted to occupy an area of up to 7% of the gross floor area of such buildings./5/ Although Section 151



SOURCE: City and County of San Francisco, 1979, City Planning Code

FIGURE 15: PLANNING CODE USE DISTRICTS

of the City Planning Code requires off-street parking for hotels, an exemption is given in the C-3 district. Section 152 of the City Planning Code requires off-street loading docks at the rate of three spaces for the first 500,000 gross sq. ft. of hotel space, plus one space for each additional 400,000 sq. ft.

The site is located in two Height and Bulk Districts (see Figure 16). The northern portion of the site is located in a 320-I District in which the maximum permitted height is 320 ft. Above a height of 150 ft., the maximum permitted building length is 170 ft. and the maximum permitted horizontal diagonal dimension is 200 ft. The southern portion of the site is located in a 160-G Height and Bulk District, in which the maximum permitted height is 160 ft. Above a height of 80 ft., the maximum permitted building length is 170 ft. and the maximum permitted horizontal diagonal dimension is 200 ft.

NOTES - Land Use and Zoning

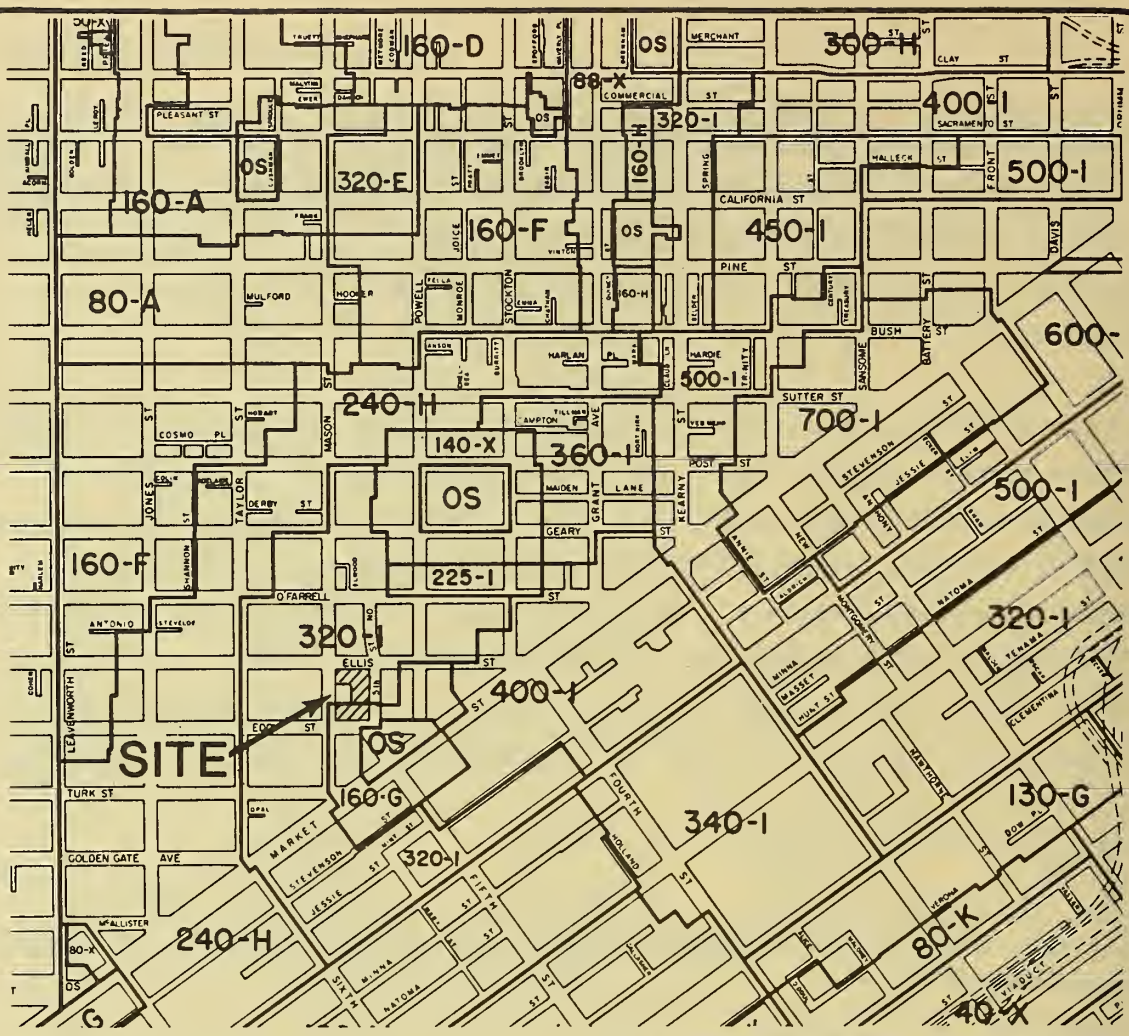
/1/ San Francisco Study Center, February 1980, "Research Paper on San Francisco's Tenderloin Neighborhood", prepared for the North of Market Planning Coalition.

/2/ Newmeyer, J. and G. Johnson, 1979, "The Tenderloin Drug Outreach Group."

/3/ Mayor's Office of Community Development, City and County of San Francisco, 31 July 1980, "North of Market Hotel Project Urban Development Action Grant Application," submitted to the U.S. Department of Housing and Urban Development.

/4/ City and County of San Francisco, 28 September 1979, City Planning Code, Section 210.3

/5/ City Planning Code, Section 204.5(c)



HEIGHT and BULK DISTRICTS	HEIGHT LIMIT	HEIGHT ABOVE WHICH MAXIMUM DIMENSIONS APPLY	MAXIMUM BUILDING LENGTH	MAXIMUM DIAGONAL DIMENSION
700-I	700	150'	170'	200'
600-I	600	150'	170'	200'
500-I	500	150'	170'	200'
450-I	450	150'	170'	200'
400-I	400	150'	170'	200'
340-I	340	150'	170'	200'
320-I	320	150'	170'	200'
320-E	320	65'	110'	200'
300-H	300	100'	170'	200'
240-H	240	100'	170'	140'
240-G	240	80'	170'	200'
225-1	225	150'	170'	200'
160-H	160	100'	170'	200'
160-G	160	80'	170'	200'
160-F	160	80'	110'	140'
160-D	160	40'	110'	140'
160-A	160	40'	110'	125'
150-X	150	BULK LIMITS NOT APPLICABLE		
140-X	140	BULK LIMITS NOT APPLICABLE		
130-G	130	80'	170'	200'
105-F	105	80'	110'	140'
88-X	88	BULK LIMITS NOT APPLICABLE		
80-K	80	60'	250'	300'
80-A	80	40'	110'	125'
65-A	65	40'	110'	125'
50-X	50	BULK LIMITS NOT APPLICABLE		
40-X	40	BULK LIMITS NOT APPLICABLE		
OS		CONFORMITY WITH OBJECTIVES, PRINCIPLES AND POLICIES OF THE MASTER PLAN.		

SOURCE: City and County of San Francisco, 1979, City Planning Code

FIGURE 16: HEIGHT AND BULK DISTRICTS

B. URBAN DESIGN AND VISUAL ASPECTS

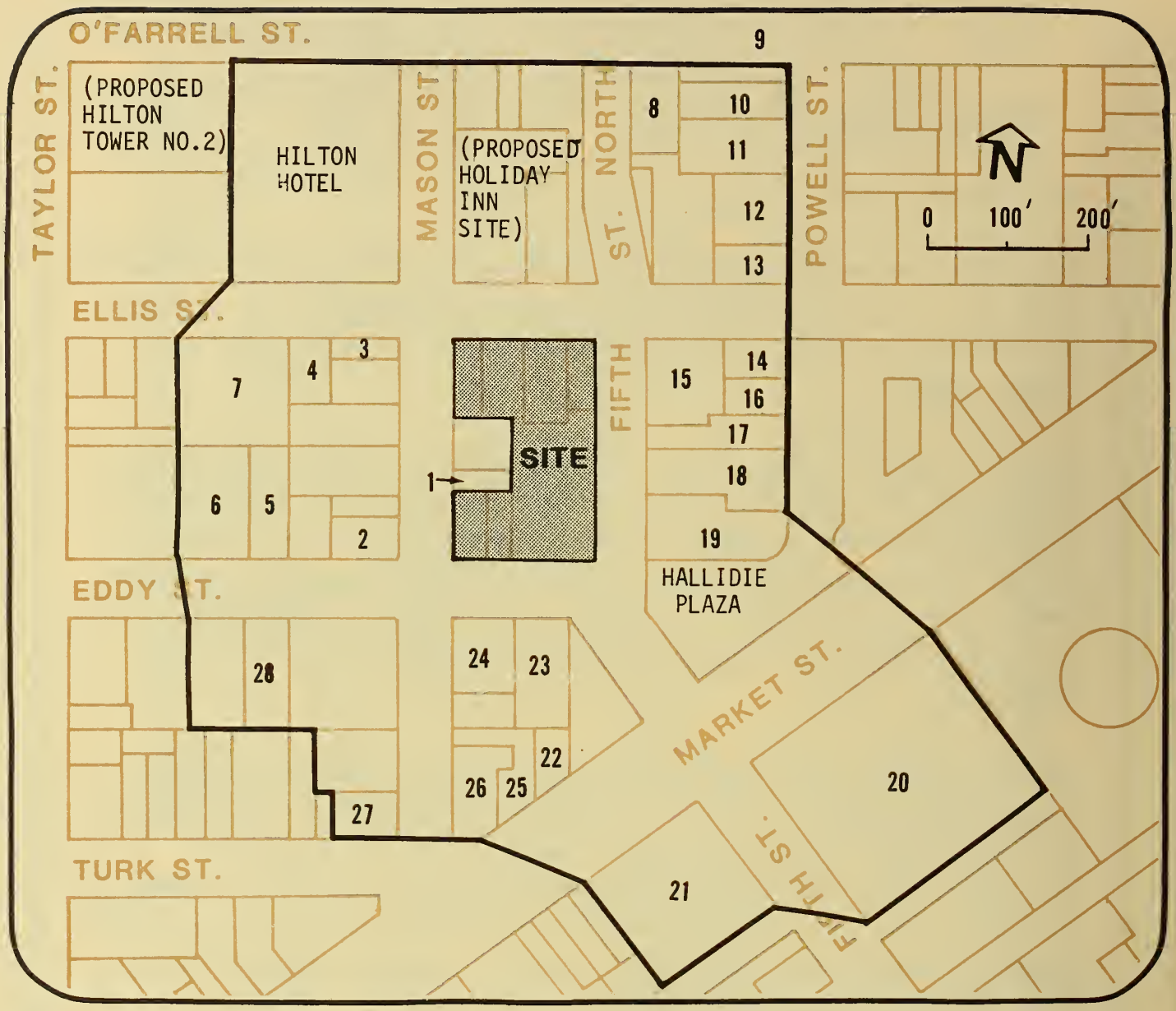
ARCHITECTURAL RESOURCES

The project site is presently occupied by a surface parking lot with a Fotomat kiosk, two low-rise brick commercial structures and a vacant lot. Neither of the structures on the site has received recognition for arcitectural or historic merit.

The project block contains two structures in addition to those which occupy the project site: a narrow, nine-story residential apartment structure at 124 Mason St. and the adjacent seven-story Olympic Hotel at (see Figure 13, p.27). Of these two structures, the apartment building at 124 Mason St. was given a summary rating of "1" (on a scale with a low of "0" and a high of "5") in an architectural survey prepared by the Department of City Planning in 1974-1976./1/

The area immediately surrounding the project block contains buildings that have received recognition in both the City's architectural survey and another, more recently published survey by the Foundation for San Francisco's Architectural Heritage contained in Splendid Survivors, in which buildings are rated on a scale from a low of "D" to a high of "A". Each building in the immediate vicinity of the project block that is listed in either survey is shown in Figure 17, together with its survey ratings./1/

Of these structures, the group with the highest ratings are those in the block immediately to the east of the project site generally fronting on Powell St. with their backs to the project site, and two structures to the southeast of the site, across Market St. Of this group, the Continental Hotel, the Powell Hotel, and the Lincoln Realty Building received ratings of "B" in the Heritage Survey and "1" or "2" in the City survey. The most highly rated buildings in this group, and in the entire study area, were the Bank of America Building at One Powell St. (see Figure 18, p.37), originally the Bank of Italy Building, which received ratings of "A" in the Heritage survey and "5" in the City survey (the highest ratings given in each survey), and the former Hale



LEGEND

	Building	S.F. DCP Inventory*	Heritage Survey*
1	124 Mason	1-D5-1	NL
2	Hotel Mason, 101-111 Mason	1-D3-2	NL
3	167 Mason	0-F1-1	NL
4	229-231 Ellis	1-D1-1	NL
5	Hotel Empress, 136-144 Eddy	0-D7-0	NL
6	Hotel Wm. Penn, 156-166 Eddy	1-D3-1	NL
7	233-261 Ellis	1-F1-1	NL
8	235-243 O'Farrell**	2-E2-3	B
9	201-219 O'Farrell**	NL	B
10	Hotel Herbert, 151-161 Powell	NL	C
11	135-149 Powell**	1-D1-1	B
12	111-133 Powell**	1-D1-2	B
13	Misses Butler Bldg., 120 Ellis	1-D1-1	C
14	Powell Bldg., 111 Ellis	0-D7-1	C
15	Continental Hotel, 119-139 Ellis **	2-D3-2	B
16	45-49 Powell	NL	C
17	Powell Cinema, 35-41 Powell	1-D7-1	C
18	Powell Hotel, 17-23 Powell**	1-D7-1	B
19	Bank of America, 1 Powell**	4-D1-5	A
20	Lincoln Realty Bldg., 9-41 Fifth	0-D7-2	B
21	Hale Brothers Store, 901-919 Market	4-D1-4	A
22	934-936 Market	NL	LNR
23	1 Hallidie Plaza	NL	LNR
24	Hotel Bristol, 83-99 Eddy	0-D7-0	NL
25	Garfield Bldg., 938-942 Market	0-D7-1	C
26	Mechanic's Savings Bank Bldg., 948 Market**	NL	B
27	Oxford Hotel, 2-16 Turk St.**	2-D3-3	B
28	Hotel Dunle, 141-145 Eddy	1-D7-1	NL

NOTES:
*See Appendix B for explanation of surveys and ratings
** Structure of Merit (May 1980)

NL: Not Listed
LNR: Listed but Not Rated
Study Area Boundary

SOURCE: Environmental Science Associates, Inc.

FIGURE 17: ARCHITECTURAL RESOURCES ON AND IN VICINITY OF PROJECT BLOCK

A. BUILDINGS ON FIFTH ST. NORTH FRONTING THE PROJECT SITE; (SEEN FROM EDDY ST.) ONE POWELL ST. AT RIGHT

B. VIEW OF PROJECT SITE ACROSS HALLIDIE PLAZA. (SEEN FROM MARKET ST.); ONE POWELL ST. AT RIGHT, ONE HALLIDIE PLAZA AT LEFT, AND HILTON HOTEL IN BACKGROUND

FIGURE 18: BUILDINGS FRONTING THE PROJECT SITE

Brothers store (later J. C. Penney) at 901-919 Market St., which received ratings of "A" and "4".

In the remainder of the study area, only 235-243 O'Farrell St. and the Oxford Hotel at 2-16 Turk St. received ratings as high as "B" and "3" in both surveys.

URBAN DESIGN AND VISUAL FACTORS

The project site is presently occupied by a vacant lot, surface parking lot, two low-rise brick commercial structures, a Fotomat kiosk, and two billboards. The one-story commercial structure at the corner of Ellis and Mason Sts. has been damaged by fire and is partially vacant. An adult book store is the only occupant. The general visual character of the site is depicted in Figure 12, p. 26, and Figure 13, p. 27.

The seven-story Olympic Hotel and the adjacent nine-story structure at 124 Mason St. (see Figure 13, p.27) also occupy the project block. These structures are similar to each other in scale and appearance, each fronts on Mason St., and each has a white-painted masonry exterior. Four street trees in front of these structures and decorative lamp posts along Mason and Eddy Sts. provide the principal visual amenities at the perimeter of the project block.

In general, most neighboring buildings which face the project site on its four street frontages are low-rise commercial structures comparable in character to those which occupy the project block. The Hilton Hotel complex, which occupies the block opposite the northwest corner of the site, affords the only immediate major contrast in scale (see Photograph B, Figure 18, p. 37).

Of the structures which occupy the blocks immediately surrounding the project site, those in the block immediately to the east have received greatest recognition for architectural merit (see III., B. p.35, Architectural Resources). They are most noteworthy, however, for the appearance they present to Powell St. Except for One Powell St., the appearance they present to Fifth St. North is the least attractive of any street fronting the project site; it is primarily of rear service entrances, fire escapes, and various

pieces of mechanical equipment (see Photograph A, Figure 18, p. 37). This street frontage provides the eastern boundary of an important visual corridor which extends generally northward from the vicinity of the intersection of Fifth and Market Sts. at Hallidie Plaza, toward the project site. The visual relationship of the project site to the neighboring, modified section of Market St., Hallidie Plaza, and the architecturally important Bank of America Building at One Powell St. is shown in Photograph B, Figure 18, p. 37.

In general, the visibility of the project site is presently limited to views from adjacent segments of neighboring streets (including Market St., Fifth St. and portions of the street-level area around Hallidie Plaza), and buildings fronting those streets. The site is also visible, however, from a few more distant vantage points, notably the nearby towers of the St. Francis and Hilton Hotels.

NOTES - Urban Design and Visual Aspects

/1/ See Appendix B, p. 190, for discussions of the Department of City Planning architectural survey and rating system and the Heritage Architectural Survey and rating system.

C. CULTURAL AND HISTORIC ASPECTS

San Francisco was first intensively mapped in 1852 by the U.S. Coast Survey, after the City and State came under the government of the United States. At that time, the project block was still a part of the sand waste lying west of the developed City. By 1868 the site was fully developed with low-rise buildings.

The most historically significant building once on the site was the Tivoli Theater, which was built on Eddy St. near Anna Lane St. (now Fifth St. North) in 1878. The theater was one of the principal theaters in San Francisco and later served as the Opera House. It and the other buildings on the site were destroyed by the earthquake and fire of 1906; the Tivoli was rebuilt as a theater in 1913. It was destroyed in 1958, except for portions of its

Eddy St. facade which were used for several years as the entrance and exit of a parking lot.

Most recently, the site was occupied predominantly by residential hotels and ground-floor retail uses. Before the Market St. improvement bond issue was approved in 1968, Fifth St. North at the site was Anna Lane St. At the corner of Mason and Eddy Sts. there was a 50-ft. high, 34-room hotel and next to it a 40-ft. high, 61-room hotel. On Ellis St., extending between Mason and Anna Lane Sts., now part of Fifth St. North, there were two one-story retail buildings and two hotels, one containing 125 rooms in 12 stories and the other containing 60 rooms in six stories. Remnants of parcels on the site required in part for the street extension have become interim automobile parking lots.

D. COMMUNITY SERVICES AND UTILITIES

Police. The project site is within the jurisdiction of the San Francisco Police Department's Central District Station at 766 Vallejo St. It is located in Statistical Reporting Area (RA) 362, bounded by Geary, Market, Eddy and Mason Sts. The area is patrolled by a 24-hour radio car. Foot patrols are assigned to the area when officers are available./1/ In 1979, RA 362 had the second highest reported number of incidents of criminal activity in the Central District. The total number of reported incidents in 1979 was 2,846; approximately 7% were violent crimes./2/ There are no private security personnel patrolling the site at present.

Fire./3/ The San Francisco Fire Department provides fire protection services to San Francisco. Engine One and Truck One from the station at 416 Jessie St., less than one-half mile from the site, would be the units of first response. Response time to the area is about two minutes. Low-pressure hydrants are located on all corners of the site block. A fire alarm box is located at Mason and Ellis Sts.

Water. San Francisco receives water from the Hetch Hetchy system. The project area is served by the University Mound Reservoir with a capacity of 140 million gallons. Current water use in San Francisco averages about

89 million gallons per day (MGD). Service to the site would be available from 12-inch diameter mains in Fifth St. North and Ellis Sts. and an eight-inch diameter main in Eddy St./4/

Wastewater. The Bureau of Sanitary Engineering of the Department of Public Works provides combined storm- and sanitary-sewer service to the project area. Service to the site would be available from the three-ft. by five-ft. rectangular brick mains in Taylor and Ellis Sts./5/

The North Point Pollution Control Plant, which receives stormwater and sewage flows from the area, receives average dry-weather flows of 52 MGD./6/ City treatment plants are not designed to handle storm flows from rainfall greater than 0.02 inches per hour; excess flows bypass the plants and discharge directly into San Francisco Bay. Plans are presently being implemented to reduce these overflows and bring the City sewer system into compliance with Regional Water Quality Control Board requirements. Bayside dry-weather facilities (secondary treatment) are scheduled to begin interim operation in December 1982. Dry-weather flows from the area would be treated at the Southeast Water Pollution Control Plant which would treat average dry-weather flows of 85 MGD. Peak capacity at the Plant would be 140 MGD after expansion. The North Point Plant would treat wet-weather flows until completion of the Citywide wet-weather system, probably near the end of the decade and at that point the North Point Plant would probably be closed./7/

Solid Waste. Domestic solid wastes in the area are collected daily by the Golden Gate Disposal Company under contract to the City and County of San Francisco./8/ Wastes are taken to a transfer station north of Brisbane and then transported to a landfill site at Mountain View Shoreline Regional Park. The landfill contract with the City of Mountain View expires in 1983 and no other agreements have as yet been secured for disposal of San Francisco's solid wastes at the Mountain View site or any other landfill site. The Sanitary Fill Company has prepared a proposal for a Resource Conversion Center, which would be constructed south of the site of the existing transfer station, in the City of Brisbane. Combustible and non-combustible materials would be separated and combustible materials would be burned to produce energy. Ferrous metals and a mixture of non-ferrous

metals would be recovered separately for sale. The remaining non-combustible material (glass, ceramic material, ash) would be sent to a landfill and would constitute less than 15% of the solid wastes as received. The City of San Francisco is currently reviewing this proposal and several other alternatives, but no decision has yet been reached./9/

Telephone. Telephone service is provided to the site block by Pacific Telephone and Telegraph Company.

NOTES - Community Services and Utilities

/1/ J. Shannon, Deputy Chief of Police, Administration, San Francisco Police Department, letter communication, 12 February 1980. This letter is available for public review at the Department of City Planning, Office of Environmental Review.

/2/ San Francisco Police Department, Incidents for Which a Police Report Was Made, by District, Plot and Crime, Jan - Dec, 1979. "Plot", in this case, refers to Statistical Reporting Area 362.

/3/ R. Rose, Chief Division of Planning and Research, San Francisco Fire Department, letter communication, 26 February 1980. This letter is available for public review at the Department of City Planning, Office of Environmental Review.

/4/ J. Kenck, Manager, City Distribution Division, San Francisco Water Department, letter communication, 14 February 1980. This letter is available for public review at the Department of City Planning, Office of Environmental Review.

/5/ M. Francies, Engineering Associate II, Sewer Investigation, Engineering Department, San Francisco Wastewater Program, letter communication, 14 February 1980. This letter is available for public review at the Department of City Planning, Office of Environmental Review.

/6/ R. Chin, Superintendent, North Point Pollution Control Plant, telephone communication, 20 February 1980.

/7/ D. Hayashi, Coordinator of Public Participation, San Francisco Wastewater Program, telephone communication, 7 March 1980, and D. Thompson, Public Clean Water Information Officer, telephone communication, 7 August 1980.

/8/ F. Garbarino, Office Manager, Golden Gate Disposal Company, telephone communication, 18 March 1980.

/9/ Resource Conversion Center, Final Environmental Impact Report, Prepared for the City of Brisbane, California, June 1980, State Clearinghouse Number 79051401.

E. ECONOMIC, EMPLOYMENT AND FISCAL ASPECTS

ECONOMIC AND EMPLOYMENT ASPECTS

Existing Uses: Block 330, the Project Site. There are currently four buildings, two vacant parcels (Lots 11 and 18) and a 150-space parking lot with a Fotomat kiosk occupying the project block. Two of the buildings, the 85-room Olympic Hotel (Lot 14) and the 36-unit 124 Mason St. apartment building (Lot 13), both fronting on Mason St., are not part of the proposed project and would be retained. Three retail uses, a grocery, a spa and a travel agency, are located on the ground floors of the Olympic Hotel and the apartment building. One building to be demolished, fronting on Eddy St. (Lot 12), has three stories and contains about 6,000 gross sq. ft. The upper two floors are vacant and a 2,000 gross-sq.-ft. bar occupies the ground floor. The second building to be demolished, at the corner of Mason and Ellis Sts. (Lots 15 through 17), contains about 8,400 gross sq. ft. This building was damaged by fire in January 1980; an adult bookstore occupying about 250 sq. ft. on the ground level is the sole tenant remaining in business. The 150-space parking lot with the Fotomat kiosk occupies about 14,000 sq. ft. (Lot 25).

Approximately 30 persons are currently employed on the project block. About 23 of these persons are employed at the Olympic Hotel, the 124 Mason St. apartment building, and the ground-level retail uses which would be retained. The bar, bookstore and parking lot with Fotomat located on the project site employ a total of about seven persons./1/

Occupancy rates at the Olympic Hotel average over 90% in the summer and about 30% in the winter. Room rates at the transient-tourist Olympic Hotel are between $17 and $24 per day. Tenants of the 124 Mason St. apartment building do not hold leases and tend to be transient. Rents range from $120 to $235 per month./2/

FISCAL ASPECTS

Existing Assessed Valuation and Property Taxes. Lots No. 11, 12, 15, 16, 17, 18 and 25 in Block 330 comprise the project site and have a total assessed valuation of $512,700. At the 1979-80 total composite tax rate of $4.97 per $100 of assessed valuation, the existing site will generate about $25,500 in property tax revenues this fiscal year. Of this amount, approximately $21,700 (85%) will accrue to the City and County of San Francisco. The distribution of the 1979/80 composite tax rate is shown in Table D-1 of Appendix D, p. 205.

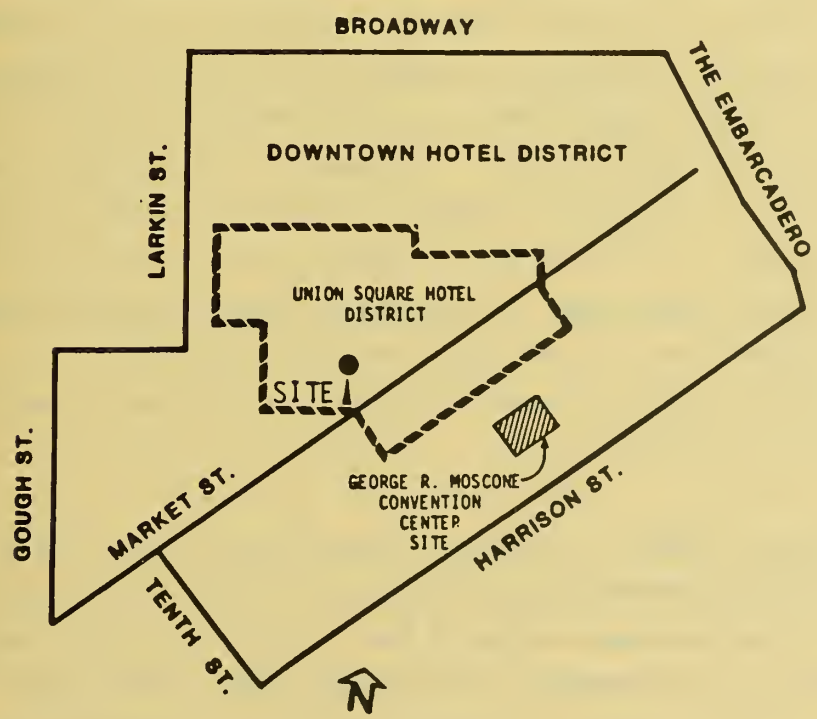
Sales and Payroll Expense Tax Revenues. Based on average gross receipts of $50 per sq. ft., the bar, adult bookstore and Fotomat located on the site generated an estimated $12,500 in 1978-9 in sales tax revenues (6.5% of $192,500 annual gross receipts): the City and County of San Francisco received about $2,400; BART $1,000; and the State $9,100. No payroll or business expense tax revenues are currently generated from the site; estimated taxes for the bar, bookstore, and Fotomat are each less than $500 and therefore these businesses are eligible for small-business tax exemptions. Proposition Q, which would increase the payroll expense tax from the current rate of 1.1% to 1.5% per $1,000 of eligible payroll, was approved by the voters in the June 1980 election. The measure was not passed by two-thirds of those voting as is required for a "Special Tax" under Proposition 13. The question of whether Proposition Q constitutes a "Special Tax" is currently being adjudicated.

Existing Costs. The City and County currently incur some costs to provide services to the project site, such as fire and police protection, street lighting and cleaning, and street and storm-drain maintenance. The Department of Public Works indicates that operating costs to provide services for individual developments cannot be reliably quantified in San Francisco./3/

SAN FRANCISCO HOTEL DEVELOPMENT: EXISTING CONDITIONS

Hotel Room Stock, Rates and Occupancy. There are currently an estimated 14,700/4/ quality hotel rooms/5/ in the downtown area, with daily room rates for single occupancy ranging from about $30 to about $110. The Union Square

downtown hotel district as defined by the San Francisco Convention and Visitors Bureau (the area generally bounded by Bush, Stockton, Sutter, New Montgomery, Second, Mint, Mission, Turk, Leavenworth, Geary and Hyde Sts.) which includes the project site, contains approximately 9,500 rooms or 65% of all quality rooms in the downtown area (see Figure 19). Sixteen hotels provide about 60% of the quality hotel rooms in the downtown area and have single-occupancy room rates of $50 or more. Areawide occupancy rates are available only for first-class/9/ hotels which generally consist of hotels with daily room rates of $50 or more. The current annual areawide occupancy rate for first-class hotels is estimated at about 82% in the 1978-79 fiscal year and 83% in the 1979-80 fiscal year./6/



SOURCE: San Francisco Convention and Visitors Bureau

FIGURE 19: DOWNTOWN AND UNION SQUARE HOTEL DISTRICTS

San Francisco Tourist Industry. According to the most recent available estimates of the San Francisco Convention and Visitors Bureau, there were an estimated 3.5 million combined (convention and non-convention) tourists in San Francisco in 1979; they spent an estimated total of $1,054 million, a 27% increase above 1978 total tourist expenditures. Tourists and commercial travelers (non-convention visitors) represent about 88% of total visitors and generated about 68% of total tourist expenditures. The average annual growth in tourists and commercial travelers was 12.9% from 1969 to 1979 and 7.2% from 1973 to 1979. During 1979 there were about 780 convention and trade shows in San Francisco, including about 30 events which had over 5,000 delegates each.

Convention participants represented about 12% of total tourists, but generated about 32% of total tourist expenditures, making convention trade an important segement of the San Francisco tourist market. The average annual growth in convention delegates was 5.4% from 1969 to 1979 and 0.6% from 1973 to 1979. The most substantial decline was an 8.8% drop in convention visitors between 1977 and 1978. The principal reason for this decline was a lack of adequate facilities for conventions and large trade shows./7/ The completion of the George R. Moscone Convention Center in 1981 is expected to increase the number of convention visitors by 30% annually by 1985. An estimated 2,700 to 3,500 new rooms would be required in San Francisco to meet the increased hotel room demand by persons attending conventions at the George R. Moscone Convention Center./8/ This room demand does not include increased room demand attributable to additional tourists, commercial travelers and participants at conventions elsewhere in the City.

Existing Hotel Room Demand. There is currently a shortage of quality hotel rooms in San Francisco, as indicated by the current loss of hotel business or "turn-away" demand for hotel accommodations in the City./9/ This turn-away demand occurs principally in the commercial traveler segment of the market when accommodations are full (or desired room sizes are not available) from Monday through Thursday, and in the tourist segment during weekends and the summer tourist season. Annual occupancy rates are a rough indicator of losses in hotel business or turn-away hotel room demand. Occupancy rates of over 75% generally indicate that hotel occupancies were 95% and above for certain portions of the year, resulting in turn-away demand./10/

An increase in hotel rooms sufficient to recapture business currently being lost is not expected until 1982, when several new proposed hotels could be completed. Areawide occupancy rates are expected to rise from 82% to 84% and room rates are expected to increase 12% per year between 1980 and 1982.

Hotel Room Tax Contributions. The City and County of San Francisco levied a hotel room tax of 8% of gross room rental sales in 1979-80./11/ Approximately $20 to $22 million of total hotel room tax revenues will have been collected in San Francisco for fiscal year 1979-80./12/ About 16 hotels containing about 10,000 rooms, generated 67% of hotel room tax revenues collected in the 1978-79 fiscal year. Forty-one hotels (including the above-mentioned 16 hotels), containing about 14,300 rooms, generated about 85% of revenues; another 274 hotels (not including the 41 hotels mentioned above) generated the remaining 15% of revenues. Hotel room tax revenues increased at an average annual rate of 16% during the period from 1973 to 1978.

An Ordinance (Proposition O) which was passed in the June 1980 San Francisco election will increase the hotel room tax rate to 9.75% of gross room rental sales by adding a 1.75% surcharge. The purpose of this surcharge is to increase revenues to the City's General Fund./13/

Residential Hotel Conversion Ordinance. The San Francisco Board of Supervisors has enacted a moratorium, effective until November 1980, on the demolition or conversion of residential hotel units to tourist hotels and other uses (such as condominiums). The moratorium is an emergency measure and was enacted in response to increasing number of residential hotels being demolished or converted in San Francisco, particularly in the Tenderloin neighborhood. According to the Ordinance more than 20,000 persons live in residential hotel housing in San Francisco and at least 2,200 residential hotel units have recently been or will be permanently converted to tourist hotel units./14/

NOTES - Employment, Economic and Fiscal Aspects

/1/ G. Hertz, Owner, Tivoli Properties, telephone communications, 22 February and 11 March 1980.

/2/ M. Ordano, Owner, Hotel Olympic and 124 Mason St. apartment building, telephone communication, 10 March 1980.

/3/ R. Evans, Assistant Director, San Francisco Department of Public Works, telephone communication, 27 March 1980.

/4/ Estimates of the downtown hotel room stock were determined in consultation with D. Hess, Assistant Manager, San Francisco Convention and Visitors Bureau, telephone communication, 1 April 1980. The total estimated 14,700 downtown hotel rooms do not include 1,500 hotel rooms located in the Fisherman's Wharf area.

/5/ There is no standard definition of quality hotel rooms in San Francisco. Various private automobile and travel associations such as the American Automobile and Mobile Travel Association rate the quality of San Francisco hotels, but each organization uses different criteria so that there is no uniform rating classification. The San Francisco Convention and Visitors Bureau does not classify hotels. Conversations with D. Hess, Assistant Manager of the San Francisco Convention and Visitors Bureau, and with J. Wilkensen, a Financial Analyst at Laventhol and Horwath (a certified public accounting firm specializing in hotel developments), indicate that hotels containing quality hotel rooms in San Francisco generally have average single-room rates of $50 (1980 dollars) and one or all of the following services and amenities: air conditioning; swimming pool / health club; 24-hour room service; a specialty restaurant; entertainment lounge; and free guest parking. First-class and deluxe first-class hotels are considered quality hotels and would have most or all of the services and amenities mentioned above.

/6/ Laventhol and Horwath, 1 March 1979, Projected Hotel Tax Collections for San Francisco, Schedule 2; hereinafter referred to as Laventhol and Horwath.

/7/ San Francisco Convention and Visitors Bureau, June 1978, 1978 Annual Report.

/8/ Laventhol and Horwath, p. 5; and R. Sullivan, General Manager, San Francisco Convention and Visitors Bureau, telephone communication, 4 April 1980.

/9/ Laventhol and Horwath, December 1979, Proposed 1000-Room Ramada Hotel, Market Study with Financial Projections, p. VI-8.

/10/ Laventhol and Horwath, Schedule 4.

/11/ J. Igoe, Project Coordinator, George R. Moscone Convention Center, telephone communication, 21 March 1980; P. Dement, Administrator, Hotel Tax Fund, Chief Administrator's Office, City of San Francisco, telephone communication, 29 January 1980; and San Francisco Board of Supervisors, 22 May 1978, Hotel Room Tax Fund Allocations, Ordinance No. 251-78, File No. 237-78.

/12/ J. Wilkensen, Hotel Financial Analyst/Consultant, Laventhol and Horwath, telephone communication, 1 April 1980.

/12/ J. Wilkensen, Hotel Financial Analyst/Consultant, Laventhol and Horwath, telephone communication, 1 April 1980.

/13/ San Francisco Board of Supervisors, 12 March 1980, Hotel Occupancy Tax Surcharge (Proposition O), File No. 128-80-1.

/14/ Board of Supervisors 11 November 1979, Moratorium on the Demolition or Conversion of Residential Hotel Units, Ordinance No. 564-79, File No. 384-77.

F. TRANSPORTATION, CIRCULATION AND PARKING

STREET AND FREEWAY SYSTEM

The project site is in the block surrounded by Fifth St. North and Ellis, Mason and Eddy Sts. The grid street system in the site vicinity consists mainly of one-way streets, introducing an element of travel circuitry for vehicular trips. The traffic movement on the streets immediately adjacent to the site is in one direction, moving in a counter-clockwise fashion; traffic moves westbound on Ellis St., southbound on Mason St., eastbound on Eddy St. and northbound on Fifth St. North. This pattern does not serve the site to the best advantage because curbside loading and unloading are made on the left side of each street. The street system in the site vicinity is shown in Figure 1, p. 8 and Figure 31, p. 124. The right-of-way characteristics for the surrounding streets are listed in Table E-1 of Appendix E, p. 206; the study area was bounded by Fifth St. North, and Eddy, Jones, Geary, Powell and Ellis Sts. Transit preferential streets and Major Thoroughfares as designated in the Transportation Element of the San Francisco Comprehensive Plan are shown in Appendix E, Figure E-1, p. 209. There are no Secondary Thoroughfares, Recreational Streets or Bicycle Routes as designated by that Plan in the site vicinity. The current daily, evening peak-hour, and highest eight-hour traffic volumes for the streets receiving the highest impacts from project traffic are listed in Table 3.

Regional service is provided by the freeways - Interstate Routes 80 and 280. The westbound on-ramps to Route 80 are located at Fourth St. and at Seventh St.; there is an eastbound on-ramp at Fifth St., providing a connection to Interstate Route 480 and the Oakland - Bay Bridge. The

TABLE 3: 1980 VEHICLE VOLUMES IN THE HOTEL VICINITY

Street	Section	24 Hours*	Peak Hour**	Max. 8 Hours
Turk	Mason-Jones	6,200	500	3,530
Eddy	N. Fifth-Jones	5,700	520	3,250
Ellis	Stockton-Jones	12,600	990	7,190
O'Farrell	Stockton-Jones	11,300	660	6,440
Geary	Stockton-Jones	14,000	1,120	7,980
Stockton	Market-O'Farrell	10,500	900	6,000
N. Fifth	Market-O'Farrell	7,500	600	4,280
Mason	Market-O'Farrell	5,700	460	3,250
Taylor	Market-O'Farrell	10,700	890	6,100
Fourth	Market-Mission	8,400	760	4,800
Fifth	Market-Mission	11,700	1,000	6,700
Sixth	Market-Mission	12,900	1,100	7,380
Seventh	Market-Mission	17,000	890	9,690
Market	Fourth-Seventh	8,800	750	5,010

*Daily traffic volume data and maximum eight-hour counts were derived from historical data for 1974-1976 obtained from City Bureau of Traffic Engineering records. These volumes were updated and modified as necessary by peak-hour traffic counts made on Friday, 20 July 1979 and on Tuesday, Thursday, Friday and Monday, 19, 21, 22, and 25 February 1980.

**Peak-hour volumes are for the single peak hour during the peak period between 4:00 and 6:00 p.m. These volumes are based on manual intersection counts made on the weekdays noted above.

westbound on-ramp to Route 280 is at Sixth St. These ramps are from 3/4 to 1 mile south of the site. Further south, both Interstate routes have interchanges with U.S. Route 101.

The four intersections at the corners of the project block are signalized. Volume/capacity analyses were made for these intersections to ascertain their current operating conditions. (Volume/capacity ratios were computed using critical lane procedures, with reductions in standard lane capacity values to account for the heavier than normal pedestrian movements.) The capacity analyses were extended to include the intersections of Fourth, Fifth, Sixth and Seventh Sts. with Market St., since these streets would be used as routes to and from the freeway ramps leading to the regional airports. Traffic congestion increases as the volume/capacity ratio approaches 1.0. (Operating conditions described by Levels of Service A through F and corresponding volume/capacity ratios are described in Appendix E, Table E-2, p. 211.) The current volume/capacity ratios of these intersections during the PM peak hour are listed in Table 4. As shown in the Table, all intersections studied are currently operating at Level C or better.

PARKING AVAILABILITY

Existing off-street parking facilities in the project area are shown in Appendix E, in Figure E-12, p. 222. Surveys of these facilities conducted on Wednesday, 18 July 1979 and Saturday, 16 February 1980 indicated that a total of about 5,360 spaces are provided. Of these, about 1,070 are rented on a monthly basis, leaving about 4,290 spaces, or about 80% of the total, available for public use. These include the existing spaces on the sites of the proposed project (150 spaces) and of the proposed Holiday Inn (80 spaces) at Mason and O'Farrell Sts., and the public spaces (213 spaces) in the existing Hilton Hotel garage. At the project and Holiday Inn sites, the spaces would be eliminated by the construction of the proposed hotels; at the Hilton Hotel, the public spaces would remain the same following the construction of the proposed Tower No. 2.

TABLE 4: 1980 P.M. PEAK-HOUR* VOLUME/CAPACITY RATIOS AND LEVELS OF SERVICE** (Based on weekday counts taken in July 1979 and February 1980)***

Intersection	V/C Ratio	LOS	Critical Approach (Direction)
Ellis - Mason	0.76	C	Westbound
Ellis - Fifth St. North	0.61	B	Northbound
Eddy - Mason	0.57	A	Southbound
Eddy - Fifth St. North	0.50	A	Northbound
Fourth - Market	0.50	A	Southbound
Fifth - Market	0.46	A	Northwest Bound
Sixth - Market	0.74	C	Eastbound
Seventh - Market	0.54	A	Northwest Bound

*The peak hour is the single hour with the highest volume/capacity ratio, occurring between 4:00 and 6:00 p.m.
**Capacity is defined as Level of Service (LOS) E; see Table E-2, p. 211.
***Traffic counts and schematics of the geometric designs of the intersections are given in Figures E-2 through E-11 of Appendix E, pp. 212 - 221.

Details of the operation of the off-street lots in the vicinity are shown in Appendix E, Table E-3, p. 223. As noted in the Table, many of the lots experience a second loading and unloading in connection with theater traffic in the evening. The average weekday occupancy rate of all the offstreet facilities is about 83% of the spaces available for public use. The turnover rate, in vehicles per stall per weekday, varies from 0.6 to 3.0.

The figure for the number of available spaces does not describe the full number of off-street parking spaces sometimes available to the public. Most hotels in the area make their parking lots available for public use when the lots are not reserved for guest parking. This supply varies with the hotels'

business cycle and, therefore, is not available at peak times. Also, parking lot attendants seldom turn away a short-term customer. All of the stalls might be filled, but these customers are accepted and the vehicles stored in service areas, aisles, or any other space which might be available. This supply is acknowledged but its amount is unknown. Short-term off-street parking is generally available throughout the normal business day.

Two actions by the City affect the off-street parking conditions in the vicinity of the site. The first is an ordinance passed in 1975 prohibiting the installation of new parking facilities external to, but within walking distance of, the Moscone Center; the exception is accessory parking, which would be the case with guest parking at the hotel. The second is an amendment to the Transportation Element of the Comprehensive Plan placing the site within an area peripheral to the Downtown Core area designated as appropriate for short-term parking facilities./1/

Existing on-street spaces as of February 1980 were inventoried on streets in the vicinity of the project site. The area surveyed was bounded by McAllister, Leavenworth, Sutter, Grant, Mission and Market; Sutter, Grant and Mission Sts. themselves were not surveyed. These spaces are broken down by street and type in Table E-4 of Appendix E, pp. 224-226. The totals of the inventory are:

Metered Regular	Metered Loading	Yellow Zones	White Zones	Taxi Zones	Green Zones	Handicapped
723	102	198	154	8	9	1

The occupancy rate for on-street parking is about 94% during typical week days. Observations ranged from a low of about 88% to a high of 100% at mid-day. The turnover rate is estimated at 1.8 vehicles per hour per space. There is no evidence that on-street parking is readily available at night, since parking is saturated at any hour when special events are held in the area.

Overall use of on-street parking spaces is conditioned by several factors. The general scheme to handle peak-hour movement is to prohibit parking between

7:00 a.m. and 9:00 a.m. on the eastbound (inbound) streets and between 4:00 p.m. and 6:00 p.m. on the westbound (outbound) streets in the area of the project site. Also, some metered spaces are designated as truck loading zones from 7:00 a.m. to 1:00 p.m. or during the afternoon period. The standard loading (yellow) zones apply from 7:00 a.m. to 6:00 p.m. (unless peak hour parking is prohibited) from Monday through Saturday. These zones are available for general parking at other times except when prohibited to allow street sweeping. The passenger loading zones apply whenever the adjacent business is open, which in some cases is 24 hours a day, seven days a week.

PEDESTRIAN SETTING

Pedestrian traffic on the sidewalks adjacent to the site was counted at the noon and afternoon peak periods on 1980 weekdays. The flow level for pedestrian traffic was then calculated and is shown in Table 5 below. Pedestrian flow levels are defined in Table F-1, Appendix F, p. 227.

TABLE 5: 1980 WEEKDAY PEDESTRIAN VOLUMES ON SIDEWALKS ABUTTING THE PROJECT SITE* - PEAK 15-MINUTE PERIODS

				Maximum 15 Minutes			
				Rate+		Pedestrian Flow Level++	
Sidewalk	Effective Width**ft.	One-Hour Volume Mid-Day***	P.M.	Mid-Day	P.M.	Mid-Day	P.M.
Fifth St. North	6	270	210	1.0	0.8	Unimpeded	Unimpeded
Eddy Street	9	570	700	1.4	1.7	Unimpeded	Unimpeded
Mason Street	9	270	250	0.7	0.6	Unimpeded	Unimpeded
Ellis Street	9	440	380	1.1	0.9	Unimpeded	Unimpeded

*Based on counts taken on Wednesday, Monday, Thursday, Monday and Tuesday; 13, 18, 21, 25, 26 February 1980.
**Midblock
***12:00 noon to 1:00 p.m.
+Pedestrians per foot of effective width of sidewalk per minute.
++See Appendix F, Table F-1, p. 227, for a discussion of pedestrian flow levels.

Pedestrian traffic at p.m. peak hour crossing at the intersections adjacent to the site was counted on Monday and Thursday on 25, 28 February 1980, and the results are shown in Table F-2 of Appendix F, p. 228. In general, peak-hour pedestrian traffic was observed to move unimpeded along the sidewalks and through the intersections. Pedestrian crossings are prohibited at certain corners in the project vicinity. Although the prohibitions are often ignored, they do concentrate pedestrian movements in the permitted crosswalks (see, for example, Fifth St. North at Eddy St., Table F-2, p. 228).

It is assumed that there would be a strong attraction of future pedestrian traffic to Market St. in connection with transit use, commercial attractions, and especially, the Moscone Center which is now under construction. Therefore, the count program was expanded to include Market St. crossing points used at this time and to serve as a base for evaluating movement to and from the Moscone Center. Present pedestrian crossing traffic is shown in Table F-3 of Appendix F, p. 228. The peak pedestrian traffic occurs during the noon hour.

TRANSIT SERVICE

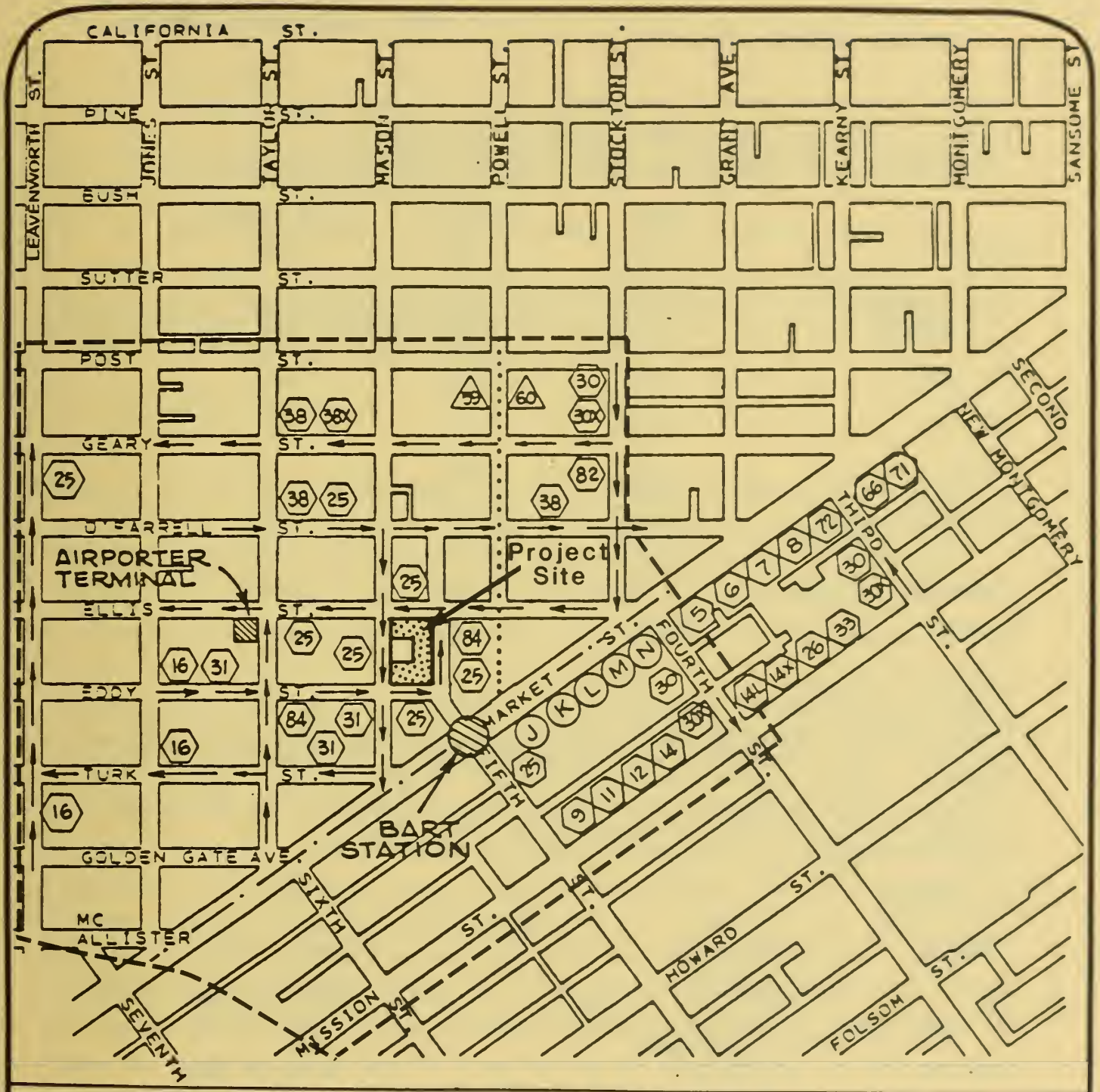
Transit service in the project area is provided on a local and regional basis as shown in Table 6. Transit-preferential streets in the surrounding area include Geary St. for outbound (westbound) buses, O'Farrell St. for inbound (eastbound) buses, and Market St. Muni transit routes within the surrounding area are shown in Figure 20, p. 57. Also shown are the Powell St. BART station and the Airporter Bus terminal, completed in July 1980.

Muni ridership on the lines shown in Figure 20, p. 57 (except cable cars), has been projected through 1982 by the Department of City Planning (see Table 7, p. 58). Outbound peak-hour ridership volumes are expected to reach 92% of total capacity by that year, where bus capacity is considered to include one standee for every two seated patrons. The Powell St. cable car lines (59 and 60) were observed to be operating at or near capacity during the 4:00 to 6:00 p.m. period at O'Farrell St. two blocks northeast of the project site. P.M. peak-hour ridership in January 1980 was 1520 persons, about 84% of the 1,800-person capacity.

TABLE 6: TRANSIT SYSTEM SERVICE AREAS AND AVAILABILITY IN THE PROJECT VICINITY

Transit System	Service Area	Available at
Muni	Local - San Francisco Area	See Figure 20, p. 57
BART	Local - Southwest San Francisco Regional - East Bay, Daly City	Powell St. Station Market and Fifth at Hallidie Plaza
AC Transit	Regional - East Bay	Terminal - Mission & First
SamTrans	Regional - Peninsula	Mission & Fifth
Southern Pacific Railroad	Regional - Peninsula	Terminal - Fourth & Townsend
Golden Gate Coach Ferry	Regional-North Bay	Bus - Van Ness & O'Farrell Ferry - Terminal Ferry Bldg.
Airporter (private)	San Francisco and Oakland Airports	Terminal at Ellis and Taylor
Lorries (private)	San Francisco and Oakland	On call to hotels
Harbor Carriers	Regional - North Bay	Ferry Bldg.

Two existing Muni lines in the immediate area of the project are proposed to be changed. A full discussion of these changes is included in the San Francisco Municipal Railway Five-Year Plan 1979-1984./2/ The 25-line designation will be retired, and its coverage northerly off Market St. will be included in line 27. This line will operate on Fifth St. North and Ellis and Taylor Sts. outbound and on Jones St., Ellis St. and Fifth St. North inbound. The 31-line now runs inbound on Eddy St. and Fifth St. North to Market St. and outbound on Turk St. from Market St. The outbound move will be changed to Fifth St. North from Market St. and out Eddy St./3/



SOURCE: San Francisco Municipal Railway

FIGURE 20: TRANSIT LINES IN THE PROJECT VICINITY

TABLE 7: 1980 PEAK-HOUR* TRANSIT RIDERSHIP AND CAPACITY

	Riders	Capacity	% of Capacity
Muni**	15,900	17,400	86
BART Transbay	9,000	11,800	76
Westbay	8,000	11,800	68
AC Transit	9,600	11,300	85
SamTrans	1,000	1,250	80
Southern Pacific	7,000	10,000	70
Golden Gate Coach	6,200	6,900	90
Ferry	1,370	2,100	65
Airporter (private)	300	400	75
Harbor Carriers	430	700	61
Lorries***(private)	40	50	80

*Peak direction only; peak travel for all systems occurs between 4:00 p.m. and 6:00 p.m.; Muni ridership is from 1982 projections by the Department of City Planning.
**Lines: J, K, L, M, N, 5, 6, 7, 8, 9, 11, 12, 14, 14L, 14X, 16, 25, 30, 33, 38, 38X, 66, 71, 72; total does not include cable cars.
***On call to hotels

Data Sources

Agency	Personnel	Date
BART	J. Stamas	16 April 1980
AC Transit	Offices of A. Winkler and W. Robinson	16 April 1980
SamTrans	L. Stuek, Supervisor of Program Development	16 April 1980
Southern Pacific Railroad	F. Pera, Manager - Commuter Traffic	21 February 1980
Golden Gate Transit	A. Zahraodnrk, Transportation Planner	21 February 1980
Airporter	J. Leonoudakis	21 February 1980
Harbor Carriers	C. Hogan, Dispatcher	21 February 1980
Lorries	T. Ruiz, Manager	21 February 1980

NOTES - Transportation, Circulation and Parking

/1/ From Revisions to the Transportation Element of the Master Plan Regarding Parking (City Planning Commission, 1977).

/2/ San Francisco Municipal Railway, Five-Year Plan, 1979-1984 (Muni, 1979).

/3/ These changes are contingent either on making Ellis St. and Eddy St. two-way streets or on installing contra-flow transit lanes. In the latter case, the street would remain one-way for private vehicles, but the exclusive transit lane would run in the opposite direction.

G. AIR QUALITY

The Bay Area Air Quality Management District (BAAQMD; formerly the Bay Area Air Pollution Control District, BAAPCD) operates an air quality monitoring station approximately 0.6 miles to the southwest of the site. A three-year summary of the data collected at this station, the corresponding air quality standards and a discussion of major pollutants appear in Appendix G, p. 229.

San Francisco's air quality is the least degraded among the developed portions of the Bay Area. The prevailing westerly and northwesterly winds tend to carry pollutants from the City to the East Bay and South Bay. Annual fluctuations in air quality are due to a combination of meteorological factors, which vary unpredictably, and pollutant emissions, which have been decreasing in the Bay Area and are expected to continue to do so in the near future. Highest annual pollutant concentrations in San Francisco, while exhibiting alternating fluctuations due to meteorology, have shown an overall improvement during the 1971-1979 period. However, annual numbers of violations of air quality standards, while exhibiting similar fluctuations, have not shown any clear overall trend during the same period. In 1979 a total of three excesses of the carbon monoxide and particulate standards occurred.

The Bay Area Air Basin has been designated by the California Air Resources Board (CARB) as a non-attainment area for ozone (oxidant) and carbon monoxide; San Francisco is a non-attainment area for particulate (i.e., the standards for these pollutants are now and are expected to continue to be violated). A regional Air Quality Plan was recently adopted which establishes control

strategies (stationary source and mobile source emission controls and transportation improvements implemented by CARB, BAAQMD, and MTC) to attain and maintain the standards by 1982 or 1987./1/

NOTE - Air Quality

/1/ Association of Bay Area Governments, BAAQMD, and Metropolitan Transportation Commission (MTC), January 1979, 1979 Bay Area Air Quality Plan, San Francisco Bay Area Environmental Management Plan. The Federal Clean Air Act Amendments of 1977 mandate that the ozone and carbon monoxide standards be attained by 1982, although a five-year extension is possible, and that the particulate standard be attained by 1987.

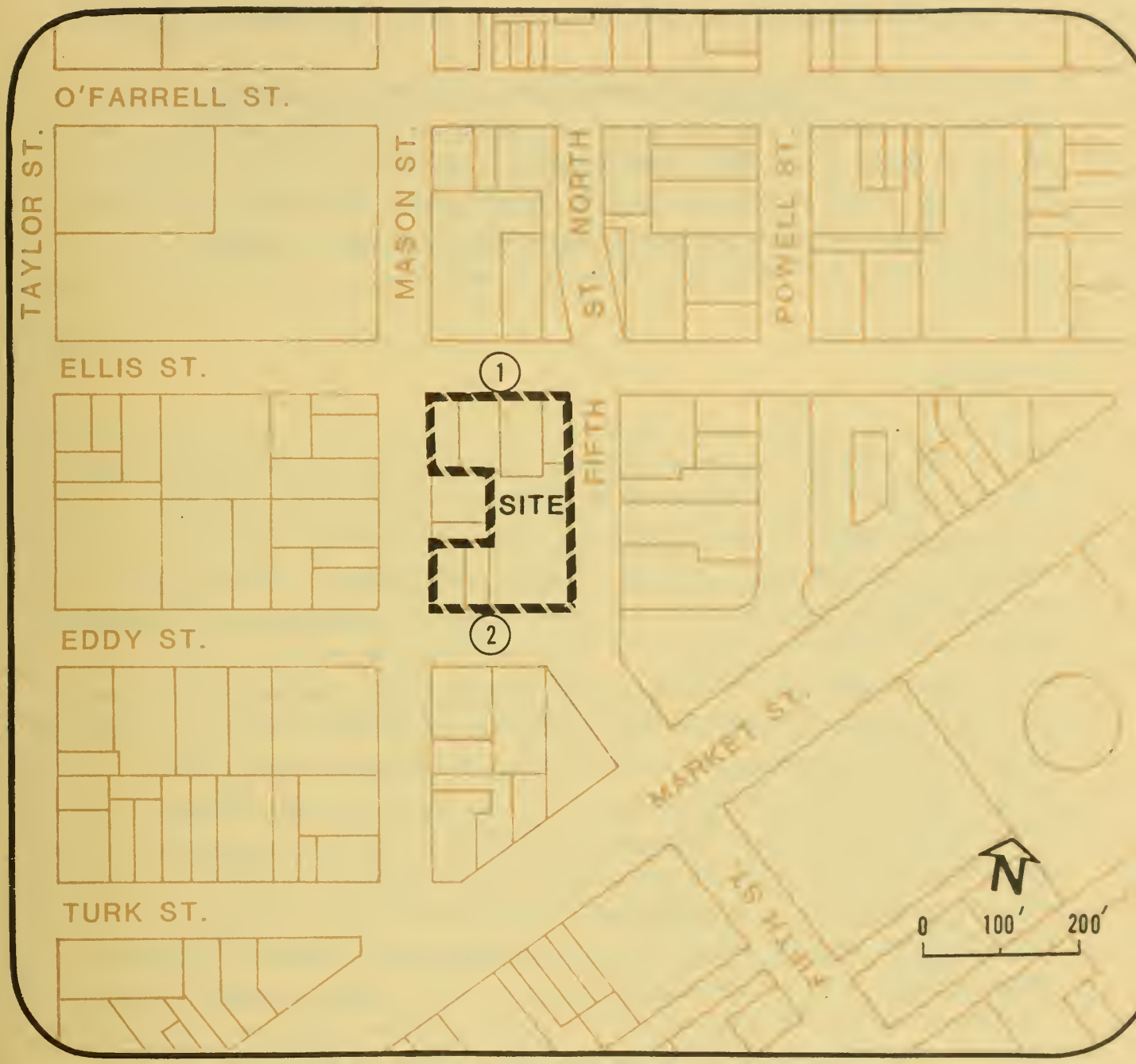
H. NOISE

As is typical of downtown San Francisco, the noise environment of the site is dominated by vehicular traffic noise. Ground-level noise was measured at the two locations near the project site which carry the highest traffic volumes or would experience the greatest project-generated traffic increase, during the afternoon of Wednesday, 2 April 1980 (see Figure 21). The results are shown in Table 8.

TABLE 8: NOISE LEVELS NEAR PROJECT SITE

Location	Approximate L10* (dBA)***	Estimated Ldn** (dBA)***
1. Eddy St. between Mason St. and Fifth St. North	69	66
2. Ellis St. between Mason St. and Fifth St. North	73	70

*L10 is the noise level exceeded 10% of the time. The L10 was measured at the location shown on Figure 21, p. 61 between 4:00 and 6:00 p.m., on Wednesday 2 April 1980, with a Bruel and Kjaer sound level meter Type 2205 with a piezo-electric microphone type 4117.
**Ldn, the day-night average noise level, is a noise-level descriptor based on human reaction to cumulative noise exposure over a 24-hour period, taking into account the greater annoyance of nighttime noises (noise between 10:00 p.m. and 7:00 a.m. is weighted 10 dBA higher than daytime noise). Ldn is calculated on the basis of known traffic level variations over the 24-hour day.
***dBA is the measure of sound in units of decibels (dB). The "A" denotes the A-weighted scale which simulates the response of the human ear to various frequencies of sound.



SOURCE: Environmental Science Associates, Inc.

FIGURE 21: NOISE MEASUREMENT LOCATIONS

The Environmental Protection Element of the San Francisco Comprehensive Plan (adopted 19 September 1974, p. 17) indicates an Ldn of 70 dBA on Eddy St. and 65 dBA on Mason St. in 1974. (See Appendix H, p. 231, and Table 8, p. 60, for definitions of Ldn and dBA.) The differences between the levels shown in the Plan and measured levels may be attributed to variations in traffic characteristics and differences in analysis methodology.

I. ENERGY

Pacific Gas and Electric Company (PG&E) provides gas and steam service in the vicinity of the site. Electricity is provided from Substation Y at the northeast corner of Larkin and Eddy Sts. Present electrical voltage distribution to the area is 12,000 volts./1/ PG&E obtains a portion of its electrical energy from renewable resources including geothermal and hydrologic power; it will meet new demands for energy primarily by increasing the use of non-renewable coal, oil, natural gas and nuclear fuels. Among the major new power plants which are anticipated by PG&E are the Diablo Canyon nuclear power plant in San Luis Obispo County, the proposed Portrero Unit Number Seven natural-gas-fired power plant in San Francisco County, and the proposed Montezuma coal-fired power plant in Solano County. Smaller increases in generating capacity will come from additional geothermal plants and, in response to Public Utility Commission (PUC) orders, from co-generation projects which generate electricity in combination with industrial processes which already use fossil fuels as a source of heat PG&E also anticipates increased purchases of electricity from other utilities; this power would come primarily from hydroelectric and nuclear power plants in Washington state. (L. Cordner, Engineering Office Representative, San Francisco Division, PG&E, telephone communications, 7 February and 15 April 1980.)

J. GEOLOGY, SEISMICITY AND HYDROLOGY

GEOLOGY

The site is generally level with a slight slope rising to the northwest. The average elevation is about 40 ft. San Francisco City Datum (SFCD) which itself is 8.6 ft. above Mean Sea Level.

The underlying deposits on the site are mapped as undifferentiated, surficial deposits. They are likely to be composed of unconsolidated sand and clay, alluvium, slope debris, and Bay mud. Occasionally dune sand and beach deposits are included in this material./1,2/ Some fill material and remnants of previous buildings, such as basements or foundation materials, probably exist on the site.

SEISMICITY

No known active faults are located within the City of San Francisco. An active fault is a fault which has a historic record or other geophysical evidence of movement within approximately the last 10,000 years. Several active faults affect San Francisco. The San Andreas Fault is located about nine miles southwest of the site, the Hayward Fault is about 15 miles to the east and the Calaveras Fault is about 30 miles to the east (see Figure 22)./3/

These three faults historically have produced major and minor earthquakes. Movement on the San Andreas Fault has produced the largest earthquake in the area, the 1906 San Francisco earthquake, which had an approximate magnitude of 8.3 on the Richter scale (a logarithmic scale developed by Charles Richter to measure earthquake magnitude by the energy released). Future earthquakes are expected in the area. Earthquake recurrence intervals vary, but several earthquakes comparable to the 1957 Daly City earthquake (about 5.3 on the Richter scale) and a major earthquake comparable to the 1906 San Francisco earthquake could be expected to affect the proposed project during its usable life./3/

The site would be expected to experience "strong" to "very strong" groundshaking which could cause damage ranging from cracked masonry and brickwork to badly cracked and occasionally collapsing masonry./3/ There is no liquefaction or subsidence hazard on the site./4/ Recent earthquakes have been felt in San Francisco, but caused no damage there. The most recent earthquake was the Greenville sequence in Livermore which occurred between 24 and 26 January 1980; the largest of these earthquakes had a magnitude of 5.8 on the Richter scale. An earthquake of Richter magnitude 5.9 occurred on 6 August 1979 at Coyote Lake, about 70 miles southeast of the project site.

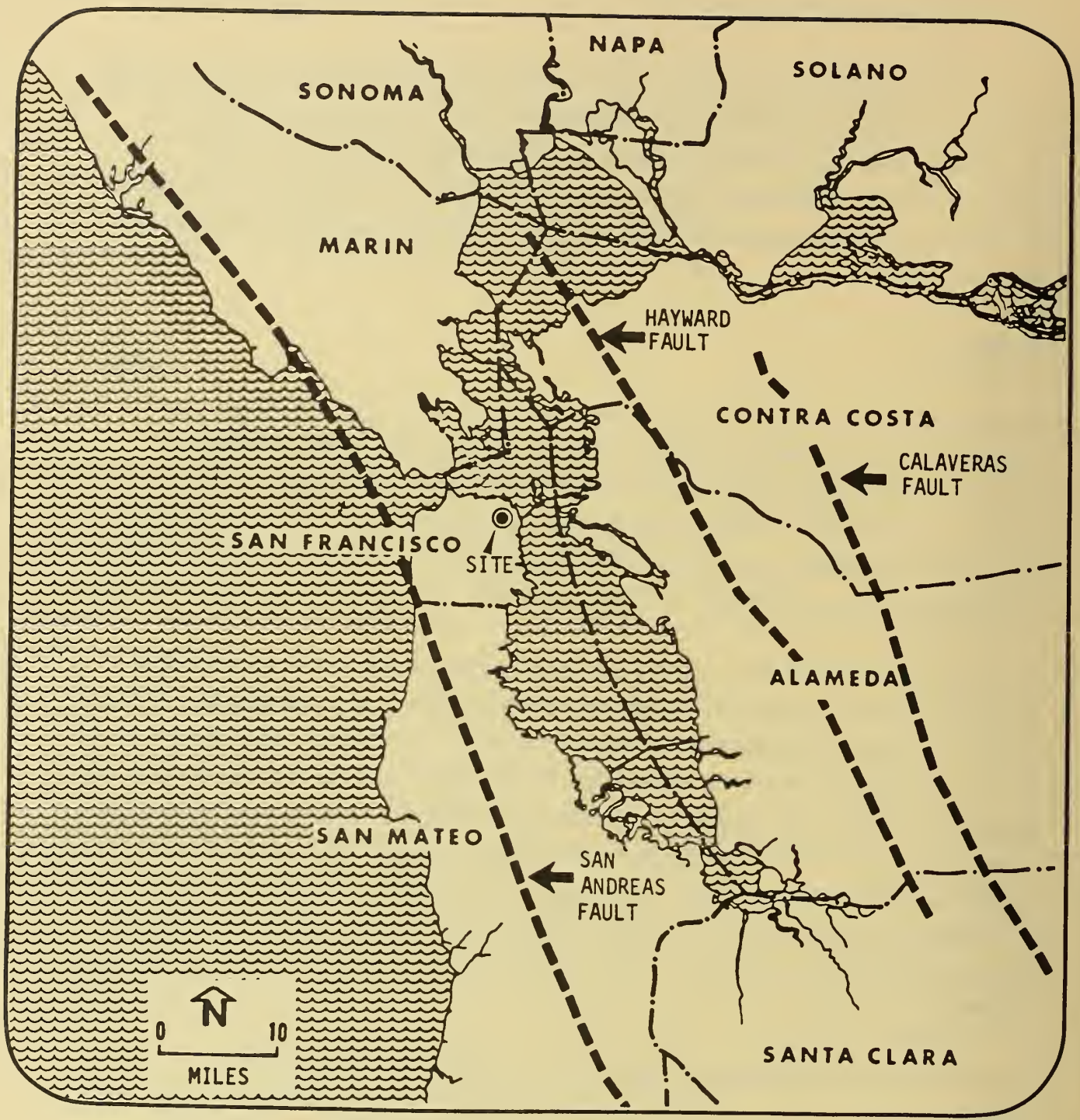


FIGURE 22: MAJOR ACTIVE FAULTS IN THE SAN FRANCISCO BAY AREA

HYDROLOGY

Runoff water from the site is collected by the City of San Francisco combined sanitary and stormwater sewer system (see III. D, p.41). The site, covered by buildings and parking lots, is impermeable. Thus, most of the rainwater which falls onto the site is converted into runoff. Surface runoff is generally greatest during the November to April rainy season. No water bodies, springs or water courses are located on the site.

Groundwater levels have not been measured on the site, but groundwater levels measured on a nearby site indicate that groundwater is at approximately 10 ft. above the SFCD. The source of the groundwater in this area is probably surface absorption at higher elevations in the Nob Hill area./5/

The quality of stormwater runoff from the site and the surrounding area has probably been degraded by urban uses. The primary pollutants would be oil, grease, gasoline and rubber from automotive traffic and onsite parking, and litter and organic materials.

NOTES - Geology, Seismicity and Hydrology

/1/ Schlocker, Julius, 1974, Geology of the San Francisco North Quadrangle, California, U.S. Geological Survey Professional Paper #782.

/2/ Sediment is classified by size as follows:

Sediment	Size (Millimeters)	Size (Approx. inches)
Gravel	2-4	0.08-0.16
Sand	1/16-2	0.0025-0.08
Silt	1/256-1/16	0.00015-0.0025
Clay	less than 1/256	Less than 0.00015

/3/ URS / John A. Blume Associates, 1974, San Francisco Seismic Safety Investigation, prepared for the Department of City Planning - City of San Francisco.

/4/ Liquefaction is the earthquake-induced transformation of a stable granular material, such as sand, into a fluidlike state, similar to quicksand. Subsidence is the uneven local settlement of the ground's surface. Although it can occur under static (normal) conditions, it is frequently activated by strong ground motion, such as that from a major earthquake.

/5/ Lee and Praszker, 1980, "Geotechnical Input for Environmental Impact Report, Hilton Tower No. 2, San Francisco, California."

K. ENDANGERED SPECIES

No plant which is officially protected under either the Federal Endangered Species Act/1/ or the State Native Plant Protection Act/2/ was noted on the site. No plant which has been proposed for protection under these acts/3/ was noted on the site. None of the above-mentioned categories of plants has ever been recorded on the site./4/ No animal species which is officially protected under either Federal or State Endangered Species Acts/5/ was noted on the site. Only one San Francisco animal has been proposed for protection under these Acts./6/ This is the San Francisco tree lupine moth (Grapholitha edwardsiana), a small moth which is almost totally dependent upon the tree lupine plant (Lupinus arboreus) for food and shelter. Neither the moth nor its plant habitat was observed on the site.

NOTES - Endangered Species

/1/ U.S. Fish and Wildlife Service, 1979a, "List of Endangered and Threatened Wildlife and Plants - Republication", Federal Register, Vol.44., No. 12, 17 January; and U.S. Fish and Wildlife Service, 1979b, "Endangered and Threatened Species - Plants", Federal Register, Vol. 44, No. 198, 10 October.

/2/ S. Rae, 1979, "List of Plants Protected Under the Native Plant Protection Act" California EIR Monitor, Vol. 6, No. 19, 15 December.

/3/ E.S. Ayensu, R.A. DeFilipps, S.E. Fowler, M.G. Mangone, C. Matti-Natella, and W.E. Rice, 1978, Endangered and Threatened Plants of the United States, Smithsonian Institution and World Wildlife Fund, Inc. Washington, D.C.; and Powell, R. W. ed., 1977, Inventory of Rare and Endangered Vascular Plants of California, California Native Plant Society, Arcata, CA.

/4/ S. Rae, State Plant Ecologist, California Department of Fish and Game, personal communication, 5 March, 1980.

/5/ U.S. Fish and Wildlife Service, 1979b, op. cit.; and Department of Fish and Game, 1978 At the Crossroads, California State Resources Agency, Sacramento, CA.

/6/ U.S. Fish and Wildlife Service, 1978, "Endangered and Threatened Species - Animals", Federal Register, Vol. 43, No. 128, 3 July.

IV. ENVIRONMENTAL IMPACT

A. LAND USE AND ZONING

The proposed Hotel Ramada would change the nature of land uses on the site from that of the existing businesses, including the Metro Parking Lot, the Trapp cocktail lounge, a small shoeshine stand, a Fotomat kiosk and the Spartan Adult Book Store. The remainder of the site, consisting of vacant lots and unoccupied buildings damaged by fire, would be occupied by the hotel with no resultant displacement of businesses or residents. No residents would be displaced by the hotel.

The proposed project would be a tourist-based residential land use similar to the Hilton Hotel and Tower on the block to the northwest of the site. The project, in combination with the proposed Holiday Inn on Mason and O'Farrell Sts. and the Hilton Hotel Tower No. 2 on O'Farrell St. (see Figure 23), would increase the intensity of transient tourist hotel use in the eastern Tenderloin District and could cause changes in the businesses currently located there. The overall variety of uses in the Tenderloin District would be expected to remain unchanged, but a portion of the businesses in the eastern Tenderloin near the hotels might become more oriented to the tourist trade. Some businesses which currently serve local residents might be converted to tourist-oriented retail stores, personal services offices, restaurants, nightclubs and other entertainment facilities (see IV. L, p. 148). Parking lots and some older buildings might be replaced by new construction for tourist-oriented businesses.

A moratorium on conversion of residential hotels to transient-tourist hotel uses currently exists for the Tenderloin area. The moratorium is in effect until November 1980, by Ordinance 169.80 approved by the Board of Supervisors on 28 April 1980. County Supervisors Doris Ward and Ella Hill Hutch, who represent the area, are currently preparing an ordinance making the moratorium permanent. They expect to bring the measure before the Board before the

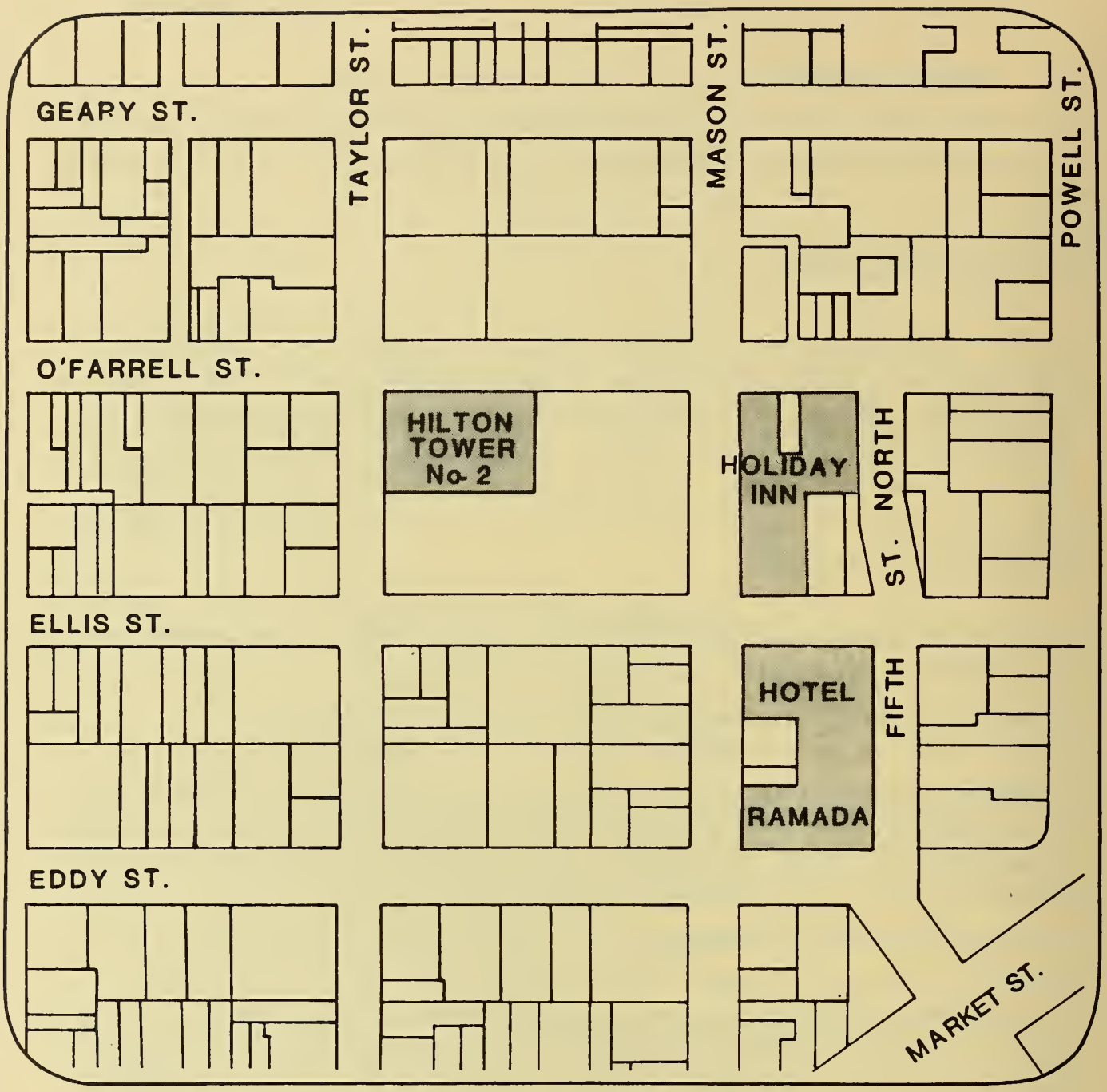


FIGURE 23: CUMULATIVE HOTEL DEVELOPMENT IN THE VICINITY OF THE PROJECT SITE

expiration of the moratorium in November. Local residents have voiced opposition to hotel conversions because of the displacement of residents and rising rents from increasing land values. In response to their concern, the City of San Francisco Office of Community Development filed an application on 31 July 1980 with the Department of Housing and Urban Development (HUD) for an Urban Development Action Grant (UDAG).

If approved by HUD, the Grant would be used to acquire and rehabilitate buildings containing about 900 residential-hotel rooms in an eight-block area between Mason and Leavenworth Sts. and Ellis and both sides of Turk Sts. Located directly east of the Hotel Ramada site, this area is in the North of Market Strategy Area in the midst of the Tenderloin. The Grant may be made only in conjunction with private investment in the area; this is provided by the proposed Hotel Ramada. The rehabilitated rooms would be permanently preserved as low-rent housing. A non-profit corporation to be known as the North of Market Trust would acquire and oversee the rehabilitation of substantially all of the properties acquried under the North of Market UDAG Program in the eight-block target area. Of the 900 rooms involved, approximately 700 rooms would be for single occupancy. The Trust would finance the acquisition and rehabilitation costs with UDAG funds from the City, repayable out of residential hotel revenues. Residential hotels would be owned by the Trust and leased to specialized and qualified operators. All repayments received by the City would be recycled for expansion of the program and operating reserves.

The current schedule calls for HUD approval of the UDAG application by 1 October 1980, establishment of the North of Market Trust by the San Francisco Board of Supervisors in November 1980, and formal agreement to the UDAG contract between HUD and the City in December 1980. Negotiations of options to acquire residential buildings are under way, rehabilitation developers have been sought, and turnkey rehabilitation proposals were received by 1 October 1980. The purchase of complete buildings from turnkey contractors with UDAG funds is expected to be begin by 1 February 1980, or as soon as construction begins on the Hotel Ramada, should it be approved. The duration of the project is expected to be 18 months.

The proposed Hotel Ramada and UDAG Project would "enable the City to approach three of its revitalization objectives. These are:

1 - "To keep pace with hotel demand growth and... produce the jobs, taxes, and tourist income essential both to the City's economic growth as a whole, and to the neighborhood's physical revitalization."

1 - "Enable the rehabilitation, maintenance, and permanent preservation of the specialized low-cost housing resources provided by the north-of-Market residential hotels."

3 - "Directly result in the permanent elimination of licensed adult entertainment establishments."/1/

Another major housing program planned for the Tenderloin is the Rehabilitation Assistance Program (RAP). The RAP program will provide below-market-rate loans to building owners to bring their buildings up to Code. The program is scheduled to begin in 1981 in a twenty-block area in the heart of the Tenderloin. Loan funds will be provided through the sale of bonds.

Comprehensive Plan

The project would meet the general objectives of the Comprehensive Plan, particularly Objective No. 7 of the Commerce and Industry Element. This objective is to "enhance San Franciso's position as a national center for conventions and visitor trade ...therefore, the City should encourage additional visitor-oriented facilities to locate in those areas where visitor attractions and businesses and convention facilities are at the present time primarily concentrated"./2/ The project would be located in a portion of the City which is a visitor-oriented activity center. Hallidie Plaza is located opposite the site across Eddy St. and Fifth St. North and the Powell St. cable car terminus is one block east of the site. Union Square and the Geary St. Theater District are about three blocks to the north.

ZONING

The proposed hotel project would comply with the permitted uses designated for Planning Code Use Districts C-3-R and C-3-G in Section 210.3 of the City Planning Code. The project as proposed does not conform to the bulk limitations of the Planning Code, because the approximately 240-ft. diagonal measurement of the mid-rise tower exceeds the 200 ft. maximum permissible horizontal diagonal dimension by about 40 ft, and the tower length exceeds the 170 ft. allowable length dimension by about 5 ft. An exception to the bulk limits can be granted under the Conditional Use Authorization procedures if one or both of the following reasons and results apply: "1) achievement of a distinctly better design, in both a public and a private sense, than would be possible with strict adherence to the bulk limits, avoiding an unnecessary prescription of building form while carrying out the intent of the bulk limits and the principles and policies of the Master Plan;" and "2) development of a building or structure with widespread public service benefits and significance to the community at large, where compelling functional requirements of the specific building or structure make necessary such a deviation."/3/

The project sponsor has applied for a Conditional Use authorization with the project given consideration as a Planned Unit Development (PUD) under the provisions of Sections 303 and 304 of the City Planning Code. PUD developments must be projects on sites of considerable size (at least 1/2 acre), developed as integrated units and designed to produce an environment of stable and desirable character which will benefit the occupants, the neighborhood and the City as a whole. Section 304 (a) of the City Planning Code further provides that, "In cases of outstanding overall design, complementary to the design values of the surrounding area, such a project may merit a well-reasoned modification of certain of the provisions" of the Planning Code. A PUD is not exempted from any height limit established by Article 2.5 of the Code unless explicitly authorized by the terms of the Code. As a PUD, the project must meet criteria which are listed in Appendix A, p.189.

Exclusive of bonuses, the Basic Floor Area Ratio of 10:1 would allow up to approximately 416,600 sq. ft. of floor area (not including mechanical or

parking space) to be developed on the site. The proposed project would include about 611,400 sq. ft., i.e., the project would be about 194,800 sq. ft. over the maximum allowable floor space, exclusive of bonuses. The project sponsor expects to obtain about 152,000 sq. ft. of bonus floor area, through the Conditional Use process, for rapid-transit proximity, multiple building entrances, sidewalk widening, shortened walking distance and parking access. The exact amount of allowable bonus floor area has not yet been determined. The project tower has been designed in accordance with the recommendation of the Department of City Planning to extend to the property line on Fifth St. North and to be about 130 ft. high at the corner of Fifth St. North and Eddy St. to balance the height of the Bank of America Bldg. at One Powell St. and enclose Hallidie Plaza; because of the project's compliance with this design recommendation, it is not eligible for a side-setback bonus which would have been allowable for other possible designs. The project as proposed exceeds the probable allowable floor area including bonuses by about 42,800 gross sq. ft. As a PUD, the project could be permitted additional floor area under the Conditional PUD provisions of Section 304(a) of the City Planning Code quoted above.

The proposed building would be within the maximum allowable height limits for both the southern and northern parts of the structure. The northern frontage of the tower on Eddy St. would be 320 ft., which is the maximum permissible height in the 320-I Height and Bulk District. No portion of the building which is in the 160-G District, would exceed 130 ft. above the street.

NOTES - Land Use and Zoning

/1/ Community Development Program and Housing Assistance Plan for the Community Development Block Grant (EE 78.250), 2 November 1980, and of the North of Market Hotel Project, Urban Development Action Grant Application, submitted by the Mayor's Office of Community Development, City and County of San Francisco, to the Department of Housing and Urban Development on 31 July 1980.

/2/ Department of City Planning, 1977, Commerce and Industry Element of the Comprehensive Plan, pp. 44-45.

/3/ City Planning Code, Article 2.5, Section 271.

B. URBAN DESIGN AND VISUAL ASPECTS

ARCHITECTURAL RESOURCES

The proposed project would not require the demolition or alteration of any structure that has received recognition for architectural merit (see III.B, p. 35 and Appendix B, p. 190). The project would, however, surround on three sides the two structures that would remain on the project block: the Olympic Hotel on Mason St., which was not rated in either the Heritage or Department of City Planning architectural surveys, and the apartment building at 124 Mason St. which received a summary rating of 1 in the Department of City Planning Survey. The proposed project would block views of the south wall and rear of the 124 Mason St. apartments. The indirect physical and urban design implications of the project for these structures, as well as historic structures in neighboring blocks, are addressed in the appropriate sections of this report (see IV. H., p. 134; and IV. B., Urban Design and Visual Factors below).

URBAN DESIGN AND VISUAL FACTORS

Project construction would constitute an infill development which would functionally and visually integrate most of the project block. Two existing structures, the Olympic Hotel and the 124 Mason St. apartment building, would be retained on the block and would remain functionally and visually independent of the project.

The project would provide a visual transition from the neighboring existing and proposed large scale hotel structures immediately north of the site to the smaller scaled structures to the east, south, and west of the site, and would balance the height of the Bank of America opposite the site at the beginning of Fifth St. North, thereby completing the spatial definition and enclosure of Hallidie Plaza on the north side. Architecturally, the proposed Hotel Ramada would be generally similar in character and scale to the proposed Hilton Tower No. 2 on the block immediately northwest of the project site, and the proposed Holiday Inn development on the block immediately north of the project site (see Figure 23, p. 68). It would be in contrast, however, with the

smaller scaled, four- to 12-story buildings in its immediate vicinity which reflect the post-1906 pattern of small lots and lower buildings. The high-rise portion of the project in the northern part of the site would be about 320 ft. in height, approximately the same as the proposed Hilton Hotel Tower No. 2 and the proposed Holiday Inn. The project would step down from its high-rise tower fronting on Ellis St., to a mid-rise portion (about 210 ft. in height) fronting on Fifth St. North, and a low-rise portion (about 130 ft. in height) occupying the south portion of the site.

The hotel entry plaza would be in the southeast corner of the project site and would thus be visible from the vicinity of the intersection of Market and Fifth Sts. and Hallidie Plaza (see Figure 2, p. 10). In general, the project would help enclose and limit the urban open space surrounding Hallidie Plaza, and its entry plaza would provide a focus of pedestrian interest and activity at that location. The visual amenity of this portion of the project would be enhanced by the proposed installation of street trees, by its similarity in scale to that of the historic Bank of America Building at One Powell St. and the newer Citizen's Savings Building which flank it to the east and south, and by its continuation of the Bank's horizontal cornice line with a cornice line of similar height.

Proposed street trees along the block's four street frontages, retail shops along its Ellis St. frontage, retail display windows on Eddy St., a secondary lobby-level entrance on Main St. and the three-story glassed-in lobby on Fifth St. North would provide a degree of pedestrian amenity and interest at street level. However, the garage ramp parallel to the western part of the Eddy St. frontage, and the busway and truck loading docks south of the 124 Mason St. apartments would emphasize vehicular service activities conflicting with pedestrian amenities along the southwestern portion of the pedestrian level surrounding the project block. Additional exterior design details and articulation to complement neighboring older structures, particularly at the lower levels of the project, are not included in the project as designed to date. The proposed cast-stone cladding and dual pane glazing would be similar in visual character to the exterior finishes of the existing newer and proposed neighboring hotel complexes, but would generally differ in character from the more richly detailed and textured older structures in the vicinity.

As the project would surround the existing Olympic Hotel and 124 Mason St. apartment building on three sides, it would generally block views from these structures to the north, east, and south. From the upper floors of the existing buildings, there would be a view from the rear windows of the landscaped sun deck of the proposed hotel (see Photograph A on Figure 13, p. 27).

The project would be partially visible from segments of neighboring streets, from buildings fronting on those street segments, from some more distant, suitably oriented downtown highrises, and from structures on higher topography to the northwest and north. The proposed project would not be visible from Russian Hill, but could be seen from portions of Nob Hill (see Figure 24). In general, however, the project would interrupt few, if any, major views from structures to the north and northwest and would not intrude as a dominant element in the San Francisco skyline when seen from most distant vantage points, including Potrero Hill and Twin Peaks (see Figure 25, p. 77 and Figure 26, p. 78).

The cumulative visual effect of the proposed project, and the Hilton Tower No. 2 and Holiday Inn developments currently proposed for adjacent blocks, is also shown in these figures. The cumulative visual impact of these proposed neighboring hotel structures would be to intensify the density of development in the immediate vicinity and to increase the visual identity of the area.

The Urban Design Element of the San Francisco Comprehensive Plan provides a basis in City policy for summarizing the urban design and visual implications of the proposed project (see Table 9, p. 79).

CUMULATIVE VISUAL IMPACTS

The proposed project would be generally visible in distant views of Downtown seen from the south and west, including views from Potrero Hill and Twin Peaks (see Figure 25, p. 77, and Figure 26, p. 78). The project would not be generally visible, however, in distant views form the north or east, as these views would be blocked by intervening taller structures and land forms.

SOURCE: Environmental Science Associates, Inc.

FIGURE 24: VIEW OF PROPOSED HOTEL STRUCTURES FROM NOB HILL (Pine and Taylor Sts.)

SOURCE: Environmental Science Associates, Inc.

FIGURE 25: VIEW OF PROPOSED HOTEL STRUCTURES FROM POTRERO HILL

▲ Hotel Ramada

▲ Holiday Inn

▲ Hilton Tower No. 2

SOURCE: Environmental Science Associates, Inc.

FIGURE 26: VIEW OF PROPOSED HOTEL STRUCTURES FROM TWIN PEAKS

TABLE 9: RELATIONSHIP BETWEEN APPLICABLE URBAN DESIGN POLICIES OF THE SAN FRANCISCO COMPREHENSIVE PLAN AND THE PROPOSED PROJECT*

APPLICABLE URBAN DESIGN POLICIES	RELATIONSHIP OF PROJECT TO APPLICABLE POLICIES
A. Policies for City Pattern	
1. Policy 1 - "Recognize and protect major views in the City, with particular attention to those of open space and water." (p. 10)	The project is outside designated view corridors. It would interrupt few, if any, long-range views from neighboring structures, because any such potential views are already blocked by existing intervening structures, or because the neighboring structures are oriented and designed to preclude such views (see Figure 25, p. 77, and Figure 26, p. 78).
2. Policy 3 - "Recognize that buildings, when seen together, produce a total effect that characterizes the City and its districts." (p.10)	The highrise portion of the project on the northern portion of the site would attain the maximum 320-ft. height permitted, as would the Hilton Hotel Tower No. 2 and Holiday Inn projects proposed for adjacent sites to the north and northwest. The stepping down of the proposed project toward the southern portion of the site would provide a transition in scale from this height to the remaining buildings on the project block and the older, smaller structures immediately to the east, south, and west, including One Powell St. The proposed project, when seen together with existing and proposed nearby hotel structures, would contribute to the visual identity of the area as part of the principal hotel district of San Francisco.

3. Policy 6 - "Make centers of activity more prominent through design of street features and by other means." (p. 12)	At street level, the proposed project would provide for pedestrian interest primarily through the addition of street trees on the site's four street frontages, retail shops on the Ellis St. frontage, retail display windows on Eddy St., a secondary entrance on Mason St. and a landscaped entry plaza in the southwest corner of the project facing Market St. and Hallidie Plaza. Service features are concentrated on the southwest corner of the site. Additional street features, such as distinctive paving, lighting, street furniture, and public open space have not been proposed.
4. Policy 8 - "Increase the visibility of major destination areas and other points for orientation." (p. 13)	The proposed project would be partially visible from neighboring streets and buildings, and a few distant vantage points, primarily to the south and west (see Figure 25, p. 77, and Figure 26, p. 78). Together with the similarly placed hotel projects proposed for adjacent sites, the project would increase the local visibility of this group of hotels.

B. Policies for Conservation

5. Policy 4 - "Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development" (p. 25)	The proposed project would not require demolition of any structure of recognized historic or architectural merit. It would directly abut the 124 Mason St. apartment building, which was given a summary rating of "1" in the Department of City Planning Architectural Survey, on its east and south sides. It would be adjacent to the Olympic Hotel on its north side.
6. Policy 6 - "Respect the character of older development nearby in the design of new buildings." (p. 25)	In general, the project would be consistent in size, scale and architectural treatment with recent existing and proposed hotel development to the north and northwest, and, by stepping down in height from the northern portion of the site to the southern portion, it would provide a visual transition to the older, smaller structures to the east, south and west of the site. The portion of the project nearest the historic Bank of America Building at One Powell St. would be approximately the same height as the bank building, and would have a horizontal cornice line that would provide a visual continuation of the cornice line of the bank (see Figure 18, p. 37). Although the stepped-down massing of the project is generally sensitive to the variety in scale of neighboring buildings, new and old, the uniformity of its exterior materials and textures, and general lack of design details, particularly at its lower levels, would represent a departure in style and character from neighboring older buildings.

C. Policies for Major New Development

7. Policy 1 - "Promote harmony in the visual relationships and transitions between newer and older buildings." (p. 36)	See Item 6 above. According to the Urban Design Plan, the surfaces of large buildings should be articulated and textured to reduce their apparent size and to reflect the pattern of older buildings. The masonry exterior of the proposed project, and the stylized bay window fenestration motif at its upper levels, would be similar to architectural treatments found in a few neighboring buildings and other buildings generally characteristic of San Francisco architecture. Except for its stepped-down massing, and upper-level window treatment, however, the project would afford little textural relief at either its upper or lower levels. The project would reduce hours of sunlight on adjacent segments of Mason, Ellis, and Fifth St. North (see IV.B., p. 85), and would almost totally block sunlight to, and views from all but the Mason St. frontage of the two older structures which would remain on the project block.

In distant views of the area, the project would be seen as a visual element among several other existing and proposed hotel structures. Because of the relatively low elevation of this area, the proposed structures would generally be seen against a backdrop of higher topography or taller Downtown structures, and would not intrude into the City skyline.

LIGHT AND SHADOW EFFECTS

During early morning hours in the fall, winter, and spring months, the project would cast shadows on the Mason St. and Ellis St. sidewalks west and north of the site (see Figure 27). On summer mornings, the project would cast shadows on Mason St. west of the site.

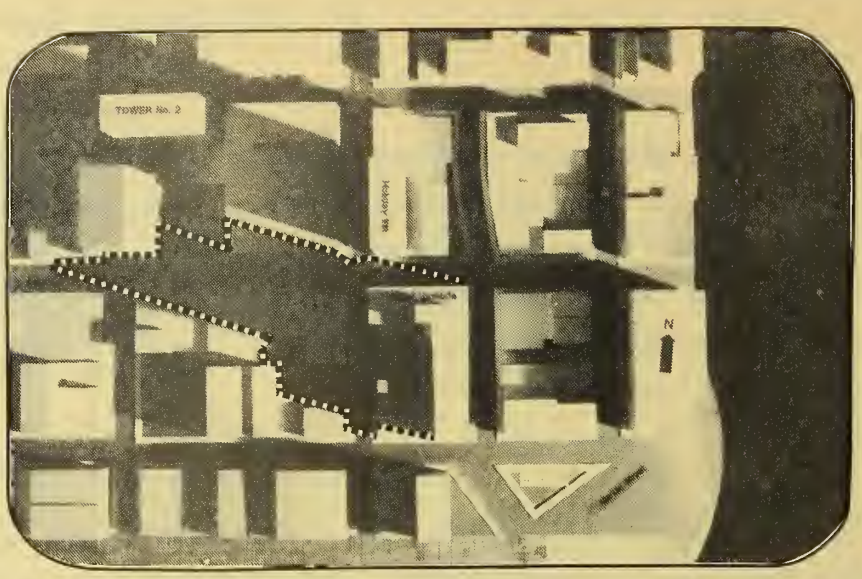
During mid-morning to mid-afternoon in the spring, summer and fall months, the project would cast shadows on Ellis St., Mason St. and Fifth St. North and on buildings west, north and east of the site. In the winter, the project would cast mid-day shadows on Ellis St., and on O'Farrell St. farther to the east than shadows would be cast by the proposed Holiday Inn (see Figure 28, p. 87).

The project would cast afternoon shadows on Fifth St. North, and on Ellis St. in all seasons. In the late afternoon in fall, winter and spring months, it would also cast shadows on Powell St., but the latter street would also be shaded at these times by existing buildings (see Figure 29, p. 88). Shadows would be cast by the project on Hallidie Plaza in the early evening in early summer, when the Plaza would also be shaded more extensively by One Powell St.

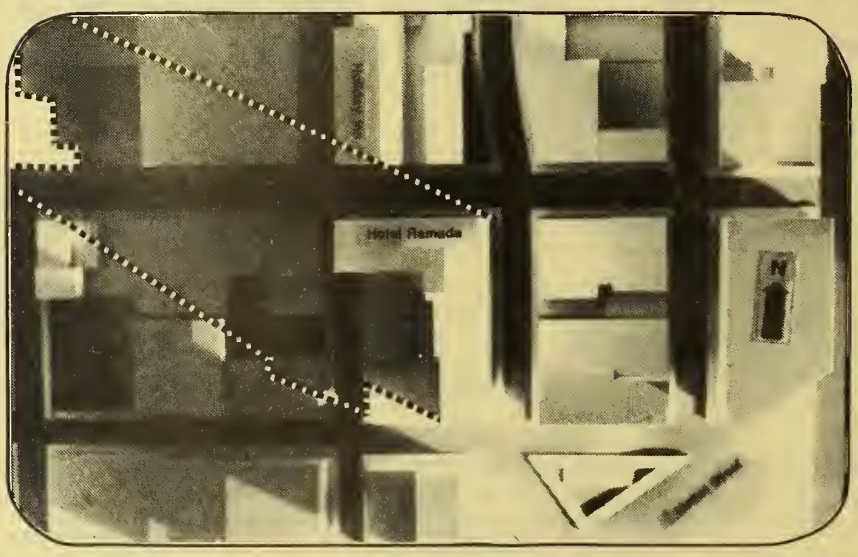
During morning hours at all times of the year, the proposed enclosed sundeck near Eddy and Mason Sts. would be shaded by the upper portion of the project. From mid-morning to mid-afternoon hours at all times of the year, the sundeck would be unshaded because of its southwesterly exposure and the absence of high-rise structures to the south and west.

WIND EFFECTS

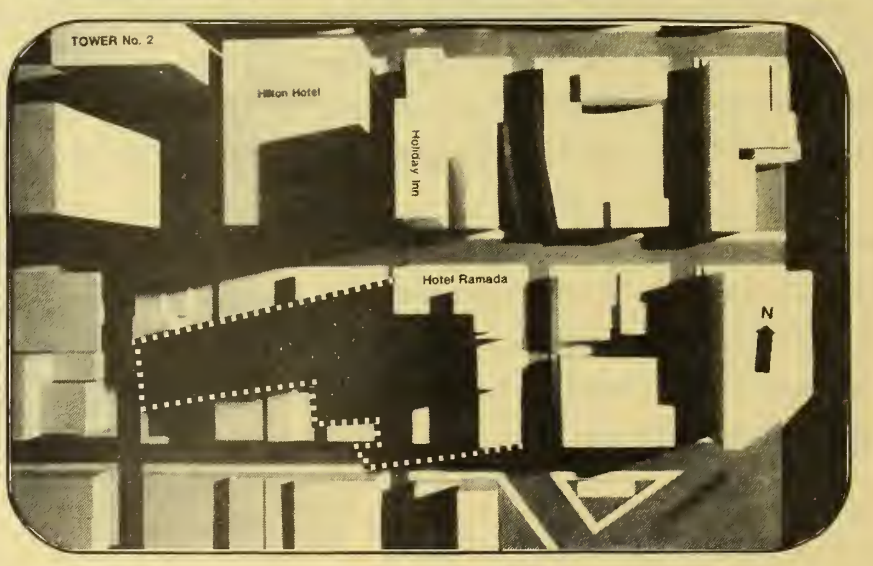
The changes the proposed building would make in wind directions and velocities at pedestrian level have been studied by the use of models in a wind tunnel to



Mid-March &
Mid-September



Mid-December



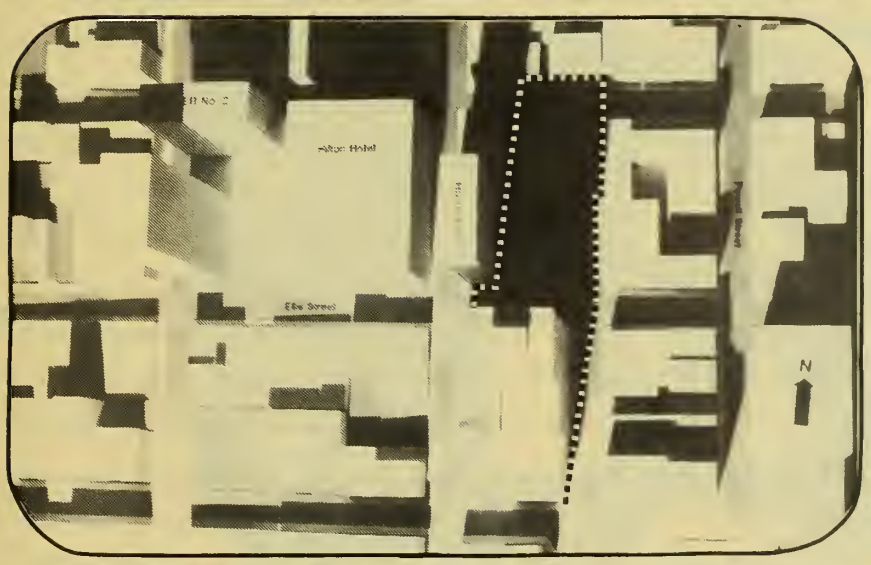
Mid-June

N

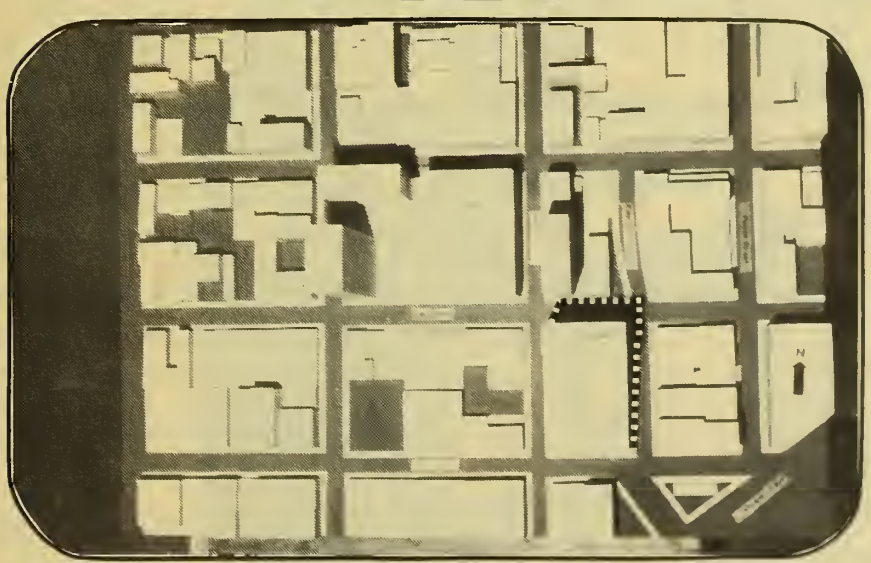
Project Shadow

FIGURE 27: PROJECTED SHADOW PATTERNS
AT 8 A.M. (STANDARD TIME)

Mid-March &
Mid-September



Mid-December

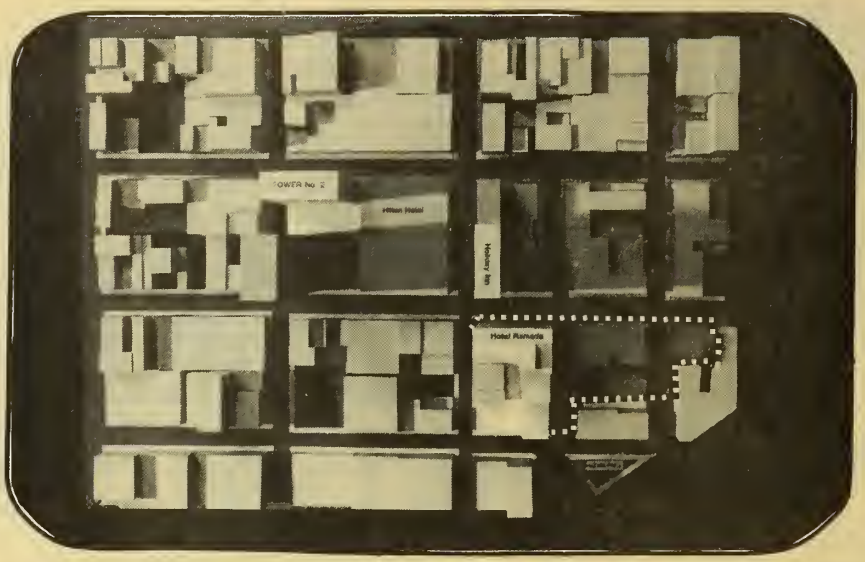


Mid-June

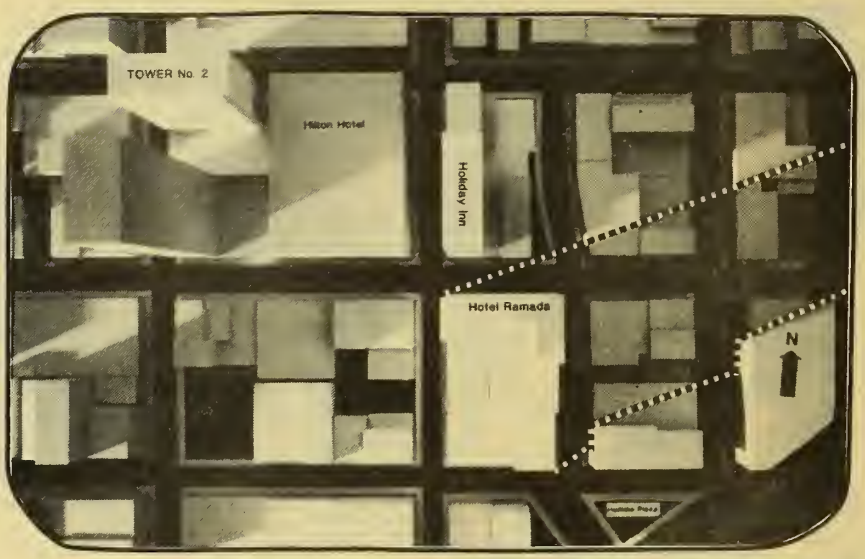
N

Project Shadow

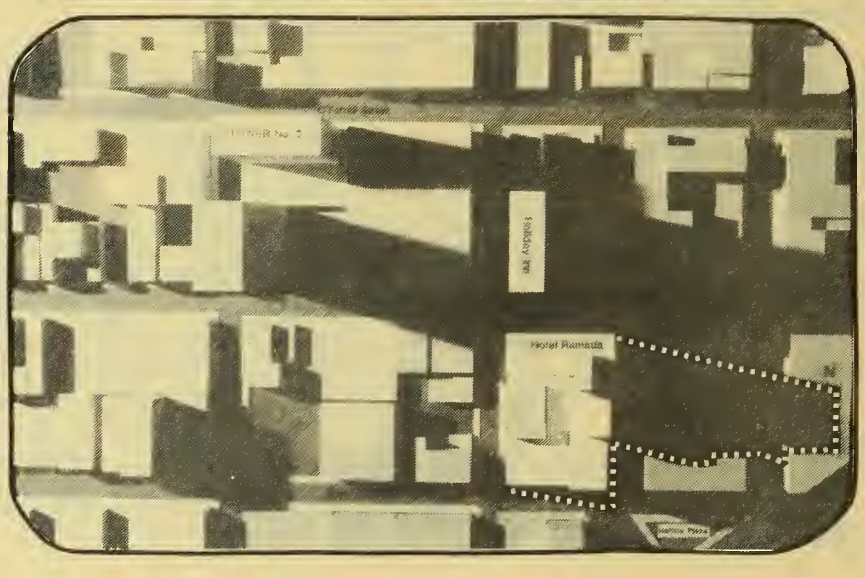
FIGURE 28: PROJECTED SHADOW PATTERNS
AT 12:00 NOON (STANDARD TIME)



Mid-March &
Mid-September



Mid-December



Mid-June

N

Project Shadow

FIGURE 29: PROJECTED SHADOW PATTERNS
AT 4 P.M. (STANDARD TIME)

simulate natural winds near the ground (see Appendix C, p. 192, for the text of the study). Tests were conducted for northwest and west winds, the most common wind conditions in San Francisco. Wind speeds at pedestrian levels were evaluated as a percentage of the wind speed measured by the U.S. Weather Service at the top of the Federal Building at 50 United Nations Plaza, about one-half mile southwest of the site; this is the nearest wind reference point. This percentage is a measure of the ratio of the wind speed at pedestrian level to the wind speed measured at the top of the Federal Building. The resulting percentage, or wind speed ratio, would remain relatively constant for calm or windy conditions. Thus, a point having a "very high" wind speed ratio would still experience light winds on a near-calm (light-wind) day. Likewise, a point found to have a "low" wind speed ratio could experience high winds on a windy day, but not nearly as high as at the wind reference location.

For northwest winds, existing wind speed ratios at the site range from low to moderate. The entire area is sheltered by the existing Hilton Hotel and would be sheltered by the proposed Holiday Inn and Hilton Tower No. 2 upwind of the site. West winds have a similar range of wind speed ratios. Highest wind speed ratios were found at the northwest corner of the Eddy St. and Fifth St. North intersection. The project would reduce wind speed ratios for northwest winds of 5% to 10% at the east side of the Ellis St. and Mason St. intersection. The existing low wind speed ratios at the intersection of the Ellis St. and Fifth St. North intersection would increase to the moderately low to moderate range. Wind speed ratios along Fifth St. North would increase from low to moderately low on the west side of the street, and increase from low to moderate along the east side of the street. Wind speed ratios along Eddy St. and in Hallidie Plaza near Powell St. would remain low. Low wind speed ratios would occur within the automobile entrance area. The outdoor rooftop areas would have moderately low to moderate wind speed ratios.

For west winds, the greatest effect would occur at the Eddy St. and Fifth St. North intersection, where wind speed ratios would increase from moderately low to moderate to the moderate to moderately high ranges. The south side of the automobile entrance area would have moderately high wind speed ratios. The

lower, outside rooftop area would have moderate wind speed ratios; the upper rooftop areas would have very high wind speed ratios.

The project would reduce wind speed ratios at the east side of the Ellis St. and Mason St. intersection by 10% to 25%. Mason St. winds would be unaffected, but reductions in wind speed ratios would occur on both sides of Fifth St. North adjacent to the project site. At the Eddy and Mason St. intersection, existing low wind speed ratios would increase to moderately low. Along Eddy St. adjacent to the site, moderately low wind speed ratios would increase to moderate. In Hallidie Plaza, wind speed ratios would remain low.

C. CULTURAL AND HISTORIC ASPECTS

The project basement would extend approximately 30 ft. below the Eddy St. sidewalk elevation. Assuming that this is deeper than the basements of some or all of the buildings previously on the site, there is a possibility that artifacts of historic value would be found during site preparation.

D. COMMUNITY SERVICES AND UTILITIES

Police. An increase in robbery, burglary and petty theft incidents would probably occur after project completion due to an increase in the number of people on the site. Auto-related thefts could occur in the parking areas. The Police Department does not anticipate a need for additional personnel or equipment to serve the proposed project./1/ Internal security provisions for the proposed Hotel Ramada would include television cameras at selected points which would be monitored in a central security office, a guard station located at the employee entrance and 24-hour roving surveillance crews equipped with two-way radios./2/

Fire. The water supply and delivery system in the vicinity of the site would be adequate for firefighting purposes. The San Francisco Fire Department

would not require additional personnel or equipment to serve the project and proposed Holiday Inn and Hilton Hotel Tower No. 2 developments./3/

Fire safety features of the proposed project would conform to the San Francisco Building Code./2/ Life safety code requirements for fire protection, as designed by the state and adopted as part of the San Francisco Building Code, reduce the cumulative impact of newer developments on Fire Department services. So long as the protection systems are properly installed and maintained, they generally confine fires to the area where they start, extinguish the fires quickly, and provide adequate forewarning to enable building occupants to reach safety. According to the San Francisco Fire Department, newer high-rise buildings present less of a fire hazard than low-rise buildings because of life safety code requirements. Once a fire begins, however, it typically requires more personnel and equipment to fight. In such a case, additional personnel and equipment are brought in from neighboring stations without requiring permanent additional personnel or equipment./4/

Water. During the 24 months of construction, an estimated 1,500 gallons per day (gpd) of water would be used at the site./5/ When completed, the proposed Hotel Ramada would have an average daily water use of about 174,000 gpd./6/

Cumulative water demand by all three proposed hotel developments in the area, including the Hotel Ramada, the Hilton Tower No. 2 and the Holiday Inn, would average about 410,000 gpd, or 0.5% of the current average daily water use in San Francisco. Existing mains have sufficient capacity to supply this amount./7/

Wastewater. It has not yet been determined whether dewatering of the site would be necessary during excavation and foundation work. The proposed development would generate a projected 165,000 gpd of dry-weather sewage flows./6/ Overflows of untreated sewage and storm flows into the Bay and ocean will continue to occur until expansion plans are implemented. These overflows are due to the design of the system, which combines sewage flows with stormwater runoff, rather than to specific developments in San Francisco.

Cumulative wastewater generation from the three proposed hotel developments would average about 390,000 gpd, or 0.8% of the current average daily dry-weather flows to the North Point Plant. This will represent 0.5% of the average flows to the Southeast Treatment Plant when it goes into interim operation in 1982. Flows to the North Point Plant will be directed to the Southeast Plant at that time. No expansion of the present collection and treatment system would be necessary to serve the three proposed hotel developments./8/

Solid Waste. During project construction, 47,000 cubic yards of excavated materials would be removed from the site. The probable disposal site would be at Oyster Point in San Mateo County./5/ When completed, the proposed Hotel would generate approximately two tons of solid waste per day./9/ The Hotel would have compaction facilities and would implement a recycling policy. Collections from the Hotel would be made daily./2/

Cumulative solid waste generation from the three hotel developments proposed in the Tenderloin would be approximately 4.5 tons per day or 0.5% of the Golden Gate Disposal Company's present daily collection of about 900 tons. The Golden Gate Disposal Company anticipates no problems with collection or disposal for the project and other proposed hotel developments./10/

Telephone. To provide telephone service to the proposed Hotel Ramada, Pacific Telephone and Telegraph Company would excavate one lane of Eddy St. from Powell St. to Mason St. Street work would continue at night for three to four months and street plates would be used during the day to minimize traffic disruption./11/

NOTES - Community Services and Utilities

/1/ J. Shannon, Deputy Chief of Police, Administration, San Francisco Police Department, letter communication, 12 February 1980. This letter is available for public review at the Department of City Planning, Office of Environmental Review.

/2/ G. Porter, Architect, Ramada Development Company, letter communication, 15 February 1980.

/3/ R. Rose, Chief, Division of Planning and Research, San Francisco Fire Department, letter communication, 26 February 1980. This letter is available

for public review at the Department of City Planning, Office of Environmental Review.

/4/ R. Rose, Chief, Division of Planning and Research, San Francisco Fire Department, telephone communication, 10 March 1980.

/5/ J. MacKay, Haas and Haynie Corporation, letter communication, 5 March 1980.

/6/ Water use calculations are based on 200 gpd per room (double occupancy), with an average 87% occupancy rate for worst-case analysis. Water use by hotel restaurants, kitchen and laundry facilities is included in the per room demand 200 x 870 = 174,000 gpd. Wastewater generation is assumed to be 95% of water consumption, to allow for water loss due to evaporation, landscaping irrigation, etc.

/7/ J. Kenck, Manager, City Distribution Division, San Francisco Water Department, letter communication, 14 February 1980. This letter is available for public review at the Department of City Planning, Office of Environmental Review.

/8/ M. Francies, Engineering Associate II, Sewer Investigation, Engineering Department, San Francisco Wastewater Program, letter communication, 14 February 1980. This letter is available for public review at the Department of City Planning, Office of Environmental Review.

/9/ Based on solid waste generation by the San Francisco Hilton Hotel, a similar hotel in the vicinity, as reported by F. Garbarino, Office Manager, Golden Gate Disposal Company, telephone communication, 5 February 1980. The amount is equal to about 4.5 lbs. of solid waste per day per room with an average occupancy rate of 87%.

/10/ F. Garbarino, Office Manager, Golden Gate Disposal Company, telephone communication, 5 February 1980.

/11/ P. Downey, Engineer, Pacific Telephone and Telegraph Company, telephone communication, 18 March 1980.

E. ECONOMIC ASPECTS AND RELOCATION

ECONOMIC AND EMPLOYMENT ASPECTS

Hotel Space and Occupancy. The development as currently proposed would have approximately 1,000 guest rooms. Average room rates would range from about $65 to $70 (1980 dollars) with an average annual occupancy rate of 75%.

Three restaurants are planned for the hotel: a 250-seat coffee shop, a 125-seat specialty restaurant with a 40-seat bar, and a 175-seat bar and grill

which would also be used as a nightclub. The hotel would have a grand ballroom with a capacity for 1,000 seats and two smaller ballrooms with a capacity for 150 seats each. There would be 16 public function rooms offering a total of 630 seats.

About 20,000 gross sq. ft. of retail space is planned for the hotel; it would include a newsstand, barber and beauty shops, a gift shop, travel services, a health club and other uses. This would represent a net increase in occupied retail space of 17,750 sq. ft. on the site. About 70 spaces of independently accessible parking or 130 spaces of valet parking are planned for the hotel, representing a net decrease of about 20 to 80 spaces at the project site.

Room demand for the Hotel Ramada is projected to be from the following visitor sectors/1/:

Convention	35%
Business Travel	32%
Family, Vacation, Tourist	33%
	100%

Relocation. A Fotomat, bar, adult bookstore, shoeshine stand and parking lot employing about seven persons would be displaced from the project site. All other tenants at the project site relocated or discontinued business after the fire in January 1980. All of the remaining business tenants were interviewed in September 1980 to learn of their relocation plans except for the owner of the adult bookstore who was not available for comment. Spokespersons for the Fotomat and bar, the Trapp, stated that they plan to try to relocate within the immediate project vicinity. Fotomat indicated that it would have difficulty finding another site suitable for drive-up and walk-up operations in downtown. The owner of The Trapp anticipated that rent would probably increase at a new location and it could lose clientele which established over the past 20 years. The parking lot leasee, Metropolitan Parking Corporation, would be interested in negotiating with the project sponsor to operate the hotel parking facility. The shoeshine stand currently leases space from Metropolitan Parking; should his business by displaced, the owner would try to negotiate a lease at a Metro Parking Lot on Mason St. nearby.

Short-Term Construction Employment. Total construction payroll for the proposed Hotel Ramada is estimated to be about $9 million, or 310 person years of construction labor./3/ An average of approximately 155 full-time jobs would exist at any one time during the two-year construction period. It is estimated that at least one-third or 50 of these jobs would be filled by San Francisco residents./3/ Construction workers would be expected to spend a portion of their wages for goods and services in the San Francisco Bay region, resulting in secondary employment effects. An estimated 155 full-time one-year jobs in addition to the construction jobs would be created in the region by this project during the two-year construction period./4/

Permanent Employment. The Hotel Ramada would provide full-time permanent employment for about 615 persons, of whom about 25 would be retail employees. Total full-time permanent employment at the hotel would represent a net increase of over 600 jobs. Projected employment by category is given in Table 10./2/ The hotel would also provide "casual or extra" food service jobs for about 50 to 75 persons per week. The majority of these permanent jobs, particularly the maintenance, food service and housekeeping jobs, would represent a net increase in employment of San Francisco Bay Area residents as these jobs can be expected to be held by workers now living in the Bay Area rather than by existing Ramada employees who would be transferred from outside of the Bay Area. Because many hotel jobs provide employment for low- and moderate-income persons and minorities, the proposed project would provide employment opportunities for persons who are currently San Francisco residents. About two-thirds or about 410 of these employees would be expected to be residents of San Francisco./1/ Estimated average annual full-time salary for employees at the Hotel Ramada would be $11,200. Based on a survey of hotel employees at the Ramada Inn at Fisherman's Wharf, an estimated two-thirds or 410 of the Hotel Ramada employees would be minorities (Asians, Hispanics and Blacks). Employment at the Olympic Hotel, in the ground-floor retail uses and at the apartment building would remain the same or possibly increase, because purchases by guests from the Hotel Ramada could result in higher levels of business activity for stores in the vicinity of the hotel.

Secondary Economic Effects. Secondary employment and income effects would result through the multiplier effect from expenditures made by permanent

TABLE 10: PROJECTED FULL-TIME PERMANENT EMPLOYMENT BY CATEGORY, HOTEL RAMADA SAN FRANCISCO

Category	Number of Employees	Percent of Total
Hotel		
Management, Professional	20	3
Maintenance	15	2
Food Service	250	41
Housekeeping	240	39
Clerical	15	2
Security	15	2
Front Desk	35	6
Retail	25	4
TOTAL	615*	100 **

* Total does not include an estimated 50 to 75 "casual or extra" food service workers who would be employed by the Hotel Ramada.
** Total does not equal 100 percent because of rounding.

SOURCE: Ramada Development Company

employees and guests at the Hotel Ramada. As employees and hotel guests make purchases in retail stores and restaurants and for entertainment, their purchases become income to those who sell goods and services. This income, in turn, creates secondary income and employment opportunities resulting in increased sales and business tax revenues generated to the City, additional jobs and income for San Francisco and other Bay Area residents, and an overall increase in economic activity in the San Francisco Bay Area.

Secondary income generated in San Francisco by the 615 permanent employees at the Hotel Ramada cannot be reliably estimated because the percentages of disposable income that would be spent in San Francisco by hotel employees who would be San Francisco residents or residents of other cities in the Bay Area cannot be determined. Estimates of hotel guest expenditures at San Francisco establishments are provided by the San Francisco Convention and Visitors Bureau. Based on the most recent estimates (1979) of the Bureau, the combined (convention and non-convention) expenditures made by hotel guests at San Francisco establishments outside of the Hotel Ramada facilities would be $60 (in 1979 dollars) for each night a visitor spent in San Francisco./5/ Based

on a 75% occupancy rate and average double occupancy of 1.5, the Hotel Ramada would have an estimated 411,000 total visitor-nights per year, resulting in annual expenditures of $24.7 million in San Francisco by Hotel Ramada guests. According to the Convention and Visitors Bureau, those expenditures would be distributed as shown in Table 11.

TABLE 11: ESTIMATED ANNUAL EXPENDITURES* MADE BY HOTEL RAMADA GUESTS AT SAN FRANCISCO ESTABLISHMENTS, BY CATEGORY, MILLIONS OF DOLLARS (1980 CONSTANT DOLLARS)

Expenditures	Percent of Total Spending	Total Estimated Dollar Amount Spent
Restaurant Meals	32.7	$ 8.1
Retail Sales	24.5	6.0
Entertainment	14.6	3.6
Local Transportation	6.8	1.7
Sightseeing	4.1	1.0
Auto: Oil, Gas	5.6	1.4
Other Items	11.7	2.9
Total	100.0	$ 22.6

*Does not include money spent at the Hotel Ramada for room accommodations and food and beverages.

SOURCE: San Francisco Convention and Visitors Bureau; Environmental Science Associates, and D. Wassenaar, Ph.D., Institute for Business and Economic Research, San Jose State University.

Visitor expenditures in San Francisco are an important factor in the City's economy because the majority of tourists, commercial travelers and convention delegates are from outside the City and are spending "new money" which originates from outside of the Bay Area. This new money would be income created in the City without subtracting income from other sectors of the San Francisco economy.

FISCAL ASPECTS

Assessed Valuation and Property Taxes. Based on preliminary cost estimates, the fair market value of the proposed Hotel Ramada would be about

$52.4 million (in 1980 dollars), including land, with an estimated assessed value of $13.1 million. The 1000-room Hotel Ramada would generate between $524,000 and $651,000 total property tax revenues annually./6/ The project would increase the San Francisco property tax base by about $12.6 million ($13.1 million less the $512,700 assessed valuation of the existing project site). Assuming that the City and County were to receive the same proportion of property taxes (85%) as in the 1979-80 fiscal year, it would receive between $445,000 and $553,000. The net increase over existing City and County property tax revenues ($21,700) from the project site would be between $423,000 and $531,000.

Hotel Tax. Based on projected total room sale revenues of $1.9 million and a 75% occupancy rate, the Hotel Ramada would annually generate $1.87 million of total hotel tax revenues at a rax rate of 9.75% after project completion. As specified by amended City Ordinance 251-78, approximately $767,000 (41%) of these hotel tax revenues would be allocated for the construction of the George R. Moscone Convention Center; $92,000 (5.10%) for Candlestick Park Bond debts and $92,000 (5.10%) for financing low-income housing in the Yerba Buena Redevelopment Area. Adjusting for the Proposition O surcharge and assuming the remaining amount would be distributed similarly to the 1979-80 fiscal year, about $280,000 (15.0%) would be budgeted for the Hotel Publicity and Advertising Fund and about $632,000 (33.8%) would accrue to the City's General Fund. The $1.87 million of hotel tax revenue resulting from occupancy of the new Hotel Ramada would be net or incremental revenues since the Hotel Ramada would not displace any existing hotel rooms and would provide 1000 new taxable hotel rooms in San Francisco.

Sales, Payroll Expense and Franchise Tax Revenues. Gross receipts from hotel-operated food and beverage facilities and from the 20,000 sq. ft. of retail space would generate about $549,000 of sales tax revenues. This amount would represent a net increase of about $537,000 over existing sales tax revenues from the project site of $12,500. The project would generate a net increase in sales tax revenue to the City and County of $102,000; it would generate about $43,000 in net revenues to BART/7/.

Total expenditures ($24.7 million) by Hotel Ramada guests at San Francisco retail establishments, restaurants, theaters and for other tourist purchases would generate an estimated $252,000 in indirect sales tax revenues to the City and County and $106,000 to BART./8/

The Hotel Ramada would generate about $66,000 of additional estimated payroll expense tax and $59,000 of franchise tax revenues from the Hotel after project completion. Should Proposition Q (June 1980) be determined to be in effect, then an additional $24,000 of payroll expense tax revenues to the City's General Fund would be generated by the project.

To the extent that the proposed addition of 1000 hotel rooms to existing San Francisco hotel room stock does not decrease demand for other existing hotel rooms, project-generated direct sales, payroll and franchise taxes would be net revenues to the City and County.

Costs and Net Revenues. The San Francisco Police and Fire Departments indicate that they would not incur additional operating and capital costs to serve the project. A slight increase in general government administrative costs would be expected with the increased intensity of uses on the project block. Street-related costs, such as those for maintenance, storm drainage, lighting, and cleaning, would not be measurably affected./9/ Water and sewer operating cost increases would be covered by user charges, and the San Francisco Water Department and Department of Public Works indicate that no additional project-related water or sewer capital costs would be required. The project would not increase the capital costs for the upgraded sewer system currently under construction by the City's Clean Water Program, because that system is being sized for wet-weather flows which exceed dry-weather flow requirements by factors of ten or more./10/

Increased costs would be incurred by Muni and BART to provide public transit for new employees and guests at the Hotel Ramada. Muni currently estimates a system wide per-paid-passenger fare deficit of about $0.45 (after the approved fare increase to $0.50). About 40% of this fare deficit is made up by City ad valorem taxes including property, payroll and franchise taxes. The remaining deficit is made up from local, state and federal funding./11/ Muni

does not anticipate a decrease in this deficit in the near future because planned improvements such as the Muni Metro system will increase future costs in proportion to increased passenger ridership. Muni does expect, however, that the portion of the fare deficit covered by local, state and federal funding will increase, thereby decreasing the portion of the deficit borne by San Francisco property taxpayers./11/

An estimated 830 trips daily would be generated on Muni (see IV.F., Table 16, p. 117) by Hotel Ramada employees (470 trips) and guests (360 trips). Assuming for worst-case analysis that the employees and guests would ride Muni seven days a week, these 830 total daily Muni trips would result in an annual operating deficit of $136,000. Additional project-generated revenues would accrue to the City's General Fund from which Muni receives part of its annual operating budget. The projected $1.3 to $1.4 million of total annual property, hotel room, sales (direct), payroll and franchise tax revenues generated from the Hotel Ramada to the City's General Fund would exceed the worst-case Muni fare deficit attributable to the proposed Hotel Ramada.

New employees at the Hotel Ramada would generate an estimated 190 daily trips on BART and guests at the hotel would generate about 90 daily trips for a total of 280 daily trips. At the existing average annual operating deficit per trip of $1.25/12/, these 280 trips would result in an annual operating deficit of about $128,000. The BART deficit is made up primarily from the 1/2% BART sales tax./13/ The estimated $149,000 of net direct and indirect sales tax revenues accruing to BART from the proposed Hotel Ramada would exceed the estimated annual operating deficit attributable to the project.

Neither Muni nor BART would require additional capital expenses or system modifications to provide transit service to the Hotel Ramada.

Total additional direct annual revenues ($1.3 to $1.4 million) that would be generated from the project to the City and County from net property taxes ($445,000 to $531,000) hotel room taxes ($605,000 accruing to the General Fund), net sales taxes ($102,000), payroll taxes ($66,000), franchise taxes ($59,000), and user fees would be expected to cover incremental (marginal) costs (including Muni costs) of public services for the project site. The

Hotel Ramada can be expected to be a net fiscal benefit to the City and County, particularly because of its hotel tax and sales tax contributions. Under Proposition 13, unless property is sold and reappraised, annual increases in per-parcel property taxes are limited to 2%. In the long run, as public costs continue to rise and per-parcel property taxes are limited to a 2% per year increase, property tax revenues may not be able to cover public costs to serve new developments. Unlike other commercial and office development, whose primary source of ongoing public revenue is property taxes, over 50% of the revenues generated to the City and County from the Hotel Ramada would be from hotel and direct sales taxes, whose dollar growth is not limited by statute.

CUMULATIVE HOTEL DEVELOPMENT EFFECTS

Projected Room Stock, Rates and Occupancy. In addition to the proposed 1000-room Hotel Ramada, about 1,600 additional quality hotel rooms are to be proposed for construction in downtown San Francisco. These proposed projects include the 410-room addition to the existing Hilton Hotel, to be located at the corner of O'Farrell and Taylor Sts.; the 1,000-room Holiday Inn, to be located at Mason and O'Farrell Sts.; and the 220-room addition to the existing Holiday Inn - Civic Center, located on 8th St. between Mission and Market Sts./14/ Total estimated additional rooms (2,600), including the project, would represent about a 18% increase in total quality hotel rooms in the downtown area and about a 27% increase in the Union Square hotel district (not including the Holiday Inn - Civic Center addition).

In addition to the four projects to be proposed for construction in the downtown area, an additional 2,500 to 2,800 rooms, proposed for three major hotel facilities, are in the informal planning stages: a 600-room addition to the existing Sheraton Palace Hotel located on Market between New Montgomery and Second Sts.; a 700-room hotel to be located near Market St. on Third St. north of the George R. Moscone Convention Center; and a second hotel (1,200 to 1,500 rooms) to be located in the Yerba Buena Center/15/.

Hotel Room Absorption and Demand. According to the San Francisco Convention and Visitors Bureau, there would be sufficient hotel room demand to absorb the

estimated 5,100 to 5,400 hotel rooms currently proposed or being planned. This additional hotel room demand would come from the following sources/16/:

George R. Moscone Convention Center. An estimated additional 2700-3500 rooms would be required by 1982 to meet the increased hotel room demand generated by the George R. Moscone Convention Center.

Increase in Foreign Tourists. Foreign tourists currently comprise about 25% of all San Francisco tourists. Foreign tourism is expected to increase, both in number and percentage of total tourism, because of the increased strength of foreign currency relative to the American dollar.

Recapture of Lost Business. Construction of an estimated 5,100 to 5,400 new hotel rooms is expected to recapture hotel business currently being lost because not enough hotel rooms are available in San Francisco. The insufficient hotel room supply leads tourists, commercial travelers and convention participants, who would prefer to stay at San Francisco hotels, to choose either not to come to San Francisco or to stay at hotels located outside of but near San Francisco, such as at the San Francisco International Airport, in Burlingame or Oakland.

With the completion of the proposed five hotel projects containing about 3,300 hotel rooms, the annual area-wide occupancy rate is expected to range from 84% in 1981-2 to 77% by 1985. This decline in occupancy would be attributable to increased room supply, not entirely compensated by the recapture of lost business./16/ Room rates are expected to increase by 10% per year (as compared to 12% per year prior to 1982) because of the increase in the number of hotel rooms. Should the estimated 2,500 to 2,800 rooms currently in the informal planning stages be added to the existing and formally proposed hotel room stock, then occupancy rates could drop below 77%. Conversely, should fewer of these rooms be constructed, then occupancy rates could increase to above 80%. If even more hotel rooms were to be added to the San Francisco hotel room stock after 1985, hotel occupancy rates and increases in room rates would be expected to decline further if there were not a corresponding increase in hotel room demand.

Effects on the San Francisco Tourist Industry. New hotel construction in the downtown area would strengthen the tourist industry in San Francisco, especially for the convention tourist market. Construction of up to 5,400 quality hotel rooms, coupled with the opening of the George R. Moscone Convention Center, is expected to increase the number of convention participants visiting San Francisco. The convention visitors make a substantial contribution to San Francisco income. According to 1979 figures provided by the San Francisco Convention and Visitors Bureau, convention participants spent 233% more per capita ($772) than per capita expenditures ($232) by other tourist or commercial travelers visiting San Francisco. These per-capita estimates are for all tourist expenditures in San Francisco, including hotel room and food and beverage sales. An increased ratio of convention-tourist business to other tourist business in San Francisco could be expected to generate higher tourist income to the City and County.

Cumulative Hotel Tax Contributions. Based on an 80% occupancy rate and an average daily room rate of $50, the proposed Hotel Ramada, Hilton Tower No. 2, Holiday Inn at O'Farrell and Mason Sts., and Holiday Inn Civic Center addition would generate an estimated $3.7 million of additional hotel tax revenue at the rate of 9.75% of gross room rental sales. This amount would be about 11% of the projected total hotel tax revenue of $32.7 million to be collected in Fiscal Year 1982-83./16/

Indirect Economic Effects on Tenderloin Residential Hotels. Construction of the proposed Hotel Ramada, Hilton Tower No. 2, and Holiday Inn would extend major hotel development in the Union Square downtown hotel district farther into the Tenderloin neighborhood of San Francisco. Although none of these projects would displace any residences or residential hotels, their construction could indirectly encourage conversion of residential hotels near them in the Tenderloin to tourist hotels. The extent of this effect would depend, in part, on whether any permanent measures are undertaken to control residential hotel conversion after the hotel conversion moratorium expires in November 1980 (see IV.A, p. 67). Should the moratorium be removed and no permanent control measure enacted to replace it, residential hotel conversion could be expected to continue in the short run. One of the primary reasons for such conversion is that with the current high demand for tourist hotel

rooms in San Francisco, hotel owners are able to increase their incomes by providing tourist (transient) hotel rooms that rent by the day instead of residential hotel rooms that rent by the week or month./17/

Cumulatively, major hotel construction in the area would indirectly stimulate residential hotel conversion by improving the image of the Tenderloin, increasing the security of the Tenderloin and increasing property values in the area./17/ Increased property values and the increased number of tourists in the Tenderloin area would be expected to upgrade existing retail uses and stimulate additional tourist-oriented retail use. The improved image, increased safety and security, and the increase in tourist-oriented commercial uses would increase the economic justification for smaller residential hotels to convert to tourist hotels because the eastern Tenderloin would become more attractive to tourists.

Even though construction of the Hotel Ramada, Hilton Tower No. 2, and Holiday Inn projects would increase the total room supply in the downtown area, their construction would not necessarily slow the rate of residential hotel conversion. In the short run major hotel development could further stimulate conversion, because tourists who could not afford the $50+ room rates at the Hotel Ramada, Hilton Tower No. 2, and Holiday Inn hotels would be willing to stay in smaller, less expensive hotels, especially if these smaller hotels are in the vicinity of these larger hotels and are able to share in the facilities of the major hotels, such as restaurants and specialty shops. Increased residential hotel conversion would reduce low-income housing stock in San Francisco, and would diminish the ability of the low-income and elderly residents to find affordable housing in San Francisco. Rising land values could result in increased rents and the replacement of some low-cost housing with more profitable tourist-oriented uses. In the long run, a decrease in the demand for hotel rooms would reduce the pressure for residential hotel conversions. If a permanent ordinance is adopted to control the conversion of residential hotels, some upgrading and increase in the number of retail stores in the Tenderloin could still be expected as well as increased pressure on property values.

NOTES - Economic, Employment and Fiscal Aspects

/1/ Based on the percentage of San Francisco employee residency at the Hilton Hotel, a similar hotel located adjacent to the project site.

/2/ T. DePaolo, Ramada Development Company, telephone communication, 4 March 1980.

/3/ J. MacKay, Haas and Haynie Corporation, letter communication, 5 March 1980.

/4/ An employment multiplier is a quantitative expression of the extent to which a change in local production induces an overall change in employment. The construction multiplier as stated in this report means that, for each person employed as a result of project construction, additional regional employment opportunities would be generated by his or her demand for goods and services. As persons tend to spend their incomes in the San Francisco Bay Area, their purchases become income to those who sell goods and services. These sellers, in turn, spend a portion of their income on their own purchases and so on. The resulting increase in the level of economic activity provides additional jobs. Two construction employment multipliers, 2.0 and 1.9, have been used for Downtown commercial office projects. The 2.0 construction employment multiplier is contained in: City and County of San Francisco, Department of City Planning, Final Environmental Impact Report: Yerba Buena Center, EE 77.220, 6 January 1978, Appendix D., Economics, p. 40 cc; and, the 1.9 construction employment multiplier is contained in: City and County of San Francisco, Department of City Planning, Draft Environmental Impact Report: Bank of Tokyo of California Building, EE 74.170, 24 January 1975, p. 41.

These multipliers, measures of the total jobs resulting from construction, should be considered as rough indicators of the number of secondary jobs that could result from project construction employment.

/5/ A visitor-night is counted as each night a visitor spends in a hotel. Per visitor-night expenditures were derived from: San Francisco Convention and Visitors Bureau, June 1980, 1979 Annual Report, p. 11 1979 Statistical Summary; and D. Wassenaar, Ph.D. Institute for Business and Economic Research, San Jose State University, telephone communication 18 April 1980.

/6/ Appreciation of land value and escalation of construction costs are expected before fiscal year 1982; however, estimates are given in constant dollars. Both the low and the high tax estimates assume the existing tax structure and appraisal of market value based on replacement costs. The low estimate is based on a tax rate of $4 per $100 assessed value and assumes that all existing San Francisco bond debt is retired. Any new bond repayment would be included in the $4 tax rate, which is the maximum composite tax rate allowed under Proposition 13. The high estimate is based on a tax rate of $4.97, which is the $4.00 maximum composite tax rate plus the 97¢ tax rate for previously approved San Francisco bond debt. The current 97¢ bond tax rate is not expected to be retired until the year 2020 (J. Porter, Chief Accountant,

Controller's Office, City and County of San Francisco, telephone communication 17 April 1980).

/7/ With the recent Muni fare increase, effective 1 April 1980, 1/3 of Muni's annual operating revenue is expected to be generated from the fare box, which under Assembly Bill 1107, allows Muni to receive a portion of the 1/2¢ BART sale tax revenues. Assembly Bill 1107 provides for 25% of the 1/2¢ BART sales tax to be allocated to Muni, A-C Transit and BART, if these transit systems generate at least 1/3 of their revenue from the fare box. Distribution of these funds is determined each fiscal year by the Metropolitan Transportation Commission (MTC). MTC estimates that approximately $26 million will be collected from (BART) sales taxes in the 1980-81 fiscal year and, of this amount, Muni will receive about 50%. (D. Cole, Grants Officer, San Francisco Municipal Railway, telephone communications, 28 March 1980 and 17 April 1980.

/8/ Indirect sales tax revenue would accrue to the City from only part of total tourist expenditures since the tax does not apply to services or sale of certain merchandise, in particular: food for human consumption except meals furnished by restaurants and similar establishments; newspapers; and magazines published more often than once every three months. Estimated indirect sales tax revenues were based on the following assumptions contained in San Francisco Planning and Urban Renewal Association, June 1975, Detailed Findings; Impact of Intensive High-rise Development in San Francisco, Final Report, pp. 265-277:

Percent of Taxable Sales:

Restaurants	100%	Sightseeing	50%
Retail Sales	100%	Auto-Related	85%
Entertainment	50%	Other Items	95%
Local Transportation	0%		

/9/ R. Evans, Assistant Director of Public Works, City and County of San Francisco, telephone communication, 23 March 1980.

/10/ Further discussion of downtown development and the wet-weather system design of the San Francisco Wastewater Management Program can be found in:

Sedway/Cooke, October 1979, Downtown San Francisco Conservation and Development Planning Program: Phase 1 Study, pp. 55-56.

/11/ D. Cole, Grants Administrator, San Francisco Municipal Railway, telephone communication, 28 March 1980.

/12/ Muni and BART average deficits per trip should not be compared, because each agency has its own cost-accounting methods and considerations. Each deficit estimate has been independently derived by these agencies using cost and revenue assumptions unique to each system.

/13/ W. Belding, Senior Economist, Bay Area Rapid Transit District, telephone communication, 28 March 1980.

/14/ In addition to the Hotel Ramada, the Hilton Hotel Tower No. 2, and two Holiday Inn projects are currently under EIR review at the Department of City Planning, Office of Environmental Review. The Office of Environmental Review file numbers for these projects are: Hilton Hotel - EE 79.257; Holiday Inn / Mason and O'Farrell - EE.79.283; and Holiday Inn / Civic Center Addition - EE.79.314.

/15/ R. Sullivan, General Manager, San Francisco Convention and Visitors Bureau, telephone communication, 4 April 1980; D. Hess, Assistant Manager, San Francisco Convention and Visitors Bureau, telephone communication, 17 April 1980; and H. Sause, Yerba Buena Project Manager, San Francisco Redevelopment Agency, telephone communication, 22 April 1980.

/16/ Laventhol and Horwath, 1 March 1979, Projected Hotel Tax Collections for San Francisco, prepared for Roger Boas, Chief Administrative Officer, City and County of San Francisco. This report is available for public review at the Department of City Planning, Office of Environmental Review.

/17/ G. Skiffer, Housing Coordinator, Department of City Planning, telephone communication, 28 March 1980, and F. Bray, Attorney, Legal Assistance for the Elderly - Tenderloin Office, telephone communication, 28 March 1980.

F. TRANSPORTATION, CIRCULATION AND PARKING

EXCAVATION AND CONSTRUCTION IMPACTS

The total construction period is estimated to last for approximately 24 months, with sidewalk and 8 ft. of roadway closures on all streets adjacent to the project site for about 22 months, eliminating one lane of parking on all four streets. On North Fifth St., the west parking lane is a tow-away lane from 4:00 to 6:00 p.m. and is used as a supplementary left-turn lane onto Ellis St.; closure of the lane would temporarily eliminate this function.

Access to the project for haul vehicles would be from Eddy St. The haul route from the site is proposed via Eddy, Fifth, Harrison and Sixth Sts. to Interstate Route 280 to U.S. 101. The probable disposal site would be at Oyster Point in San Mateo County. The return route would be from U.S. 101 to Interstate Route 280 to Sixth, Taylor and Eddy Sts. Haul operations are estimated to last about 30 days, and could generate between 18 and 24 trips per hour distributed approximately evenly throughout the work day./1/ The truck traffic would lower the abilities of the haul route streets and the Sixth St. on-ramp to carry traffic because of truck operational

characteristics such as slower speed, slower acceleration and larger turning radii. Post-excavation construction could be worked from any of the adjacent streets. This work would generate from 30 to 50 truck trips per day./1/ The construction activities would have minimal impact on transit operations since the one-way counterclockwise circulation pattern of the peripheral streets places all transit loading and unloading on the opposite side of the street from the project site.

Installation and extension of telephone and electrical conduit could further impede traffic flow on Eddy St. These activities generally take place during the off-peak hours between 9:00 a.m. and 4:00 p.m. or at night.

PROJECT TRIP GENERATION

To determine project trip-generation characteristics for hotels in the vicinity of the project site, two separate surveys were made at the existing 1700-room Hilton Hotel and Tower which is across Mason and Ellis Sts. from the Hotel Ramada site (for further description of the surveys, see the Hilton Hotel Tower No. 2 DEIR, EE 79.257). During a one-week period from 8 to 14 February 1980, guests registering at the hotel were asked how they arrived and whether they had rented, or intended to rent, a car. All employees of the existing Hilton Hotel and Tower were surveyed for place of residence and mode of transportation to and from work. A series of manual counts was also made at the existing Hilton Hotel between the hours of 7:00 a.m. and 6:00 p.m. on Monday and Tuesday, 3 and 4 March 1980. These counts covered both vehicle and pedestrian traffic and were made on all four streets adjacent to the site.

The Hotel Ramada would contain about 1,000 rooms and would generate an estimated 2,400 vehicle trips daily and 190 trips during the p.m. peak hour at the perimeter of the site. According to the Hilton Hotel counts, peak vehicular trip generation occurs between 5:00 and 6:00 p.m. Daily pedestrian trip generation is estimated at 9,600 trips, with 1,250 of these trips occurring during the noon peak hour. The project would have about 615 employees. Projected trip patterns for guests and employees are listed in Table 12. Vehicle and pedestrian access patterns to the hotel are shown in Figure 30, p. 110.

TABLE 12: ESTIMATED 24 HOUR WEEKDAY TRAVEL GENERATED BY THE HOTEL RAMADA
(Person Trip Ends)

EMPLOYEES*

Area of Residence	%	One-Way Person Trip Ends Auto	Transit**	Walk***
San Francisco	68	230	510	780
East Bay	13	40	120	160
Peninsula	14	40	120	160
North Bay	5	20	60	80
TOTAL		330	810	1,180

*Does not include the 25 estimated retail employees.
**Trips made by transit would typically begin as pedestrian trips from the hotel.
***Five percent of San Francisco residents assumed to walk to work; no employees to park in hotel garage.

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GUESTS

Area of Trip Origin or Destination	%	Auto*	Transit**	Walk***
San Francisco	70	2,020	920	7,320
East Bay	6	560	270	200
Peninsula	20	980	920	1,000
North Bay	4	440	120	100
TOTAL		4,000	2,230	8,420

*Includes taxis and service vehicles. Vehicle occupancy assumed to be 1.5 for taxis and 1.6 for autos.
**Trips made by public transit would typically begin as pedestrian trips from the hotel.
***Pedestrian trips do not include trips to vehicles on the project block or on streets peripheral to the project block.

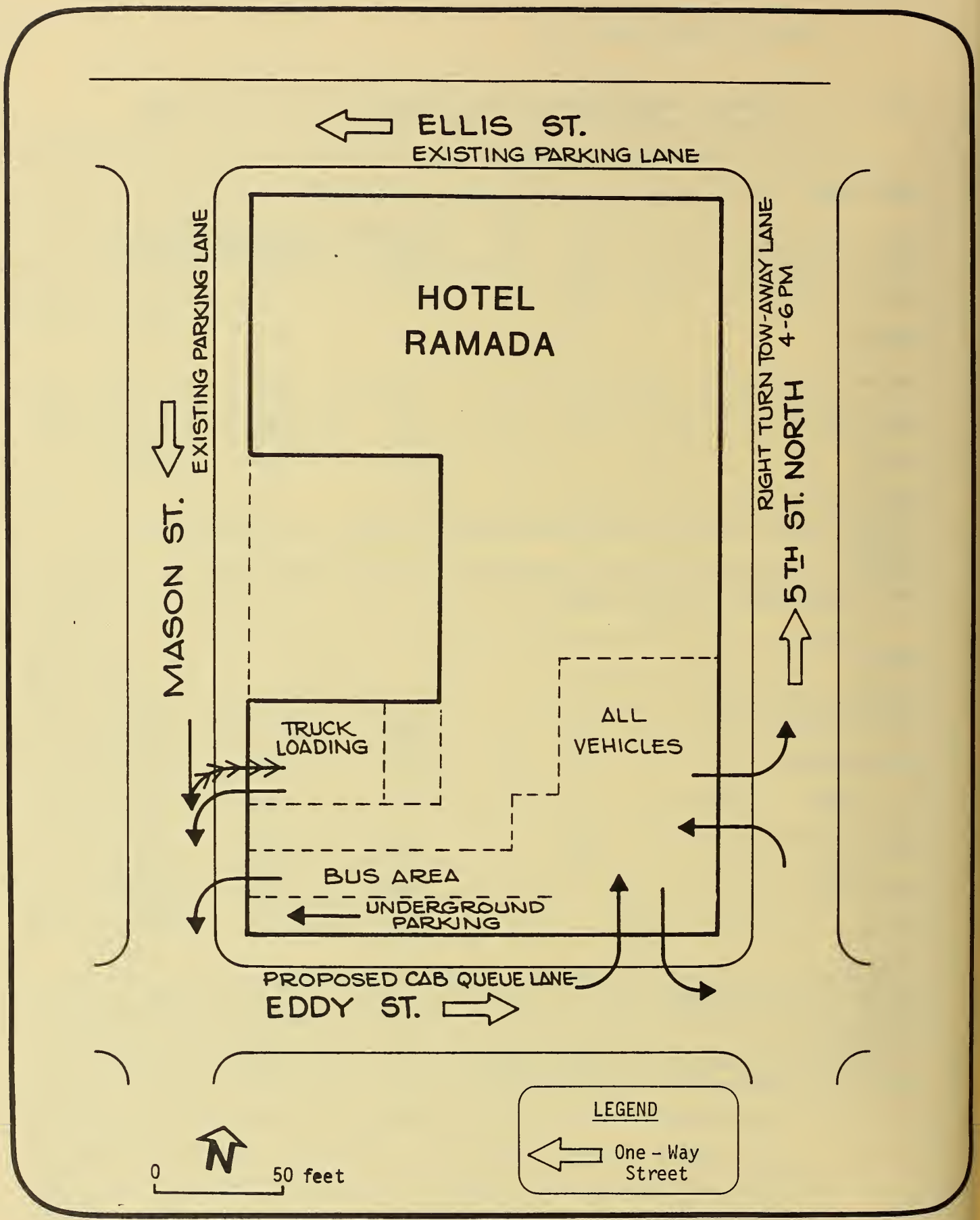


FIGURE 30: ACCESS PATTERNS
AT THE PROJECT SITE

There are other hotel-related vehicle trips by guests and employees that have their ends in the site vicinity, but could not be counted in the survey. From information developed in the other surveys, it is estimated that the total unit vehicle trip generation is 2.9 trips per occupied room. This figure was used in estimating vehicle miles travelled.

TRAFFIC IMPACTS

The proposed Hotel Ramada would generate a total of about 2,900 vehicular trip ends daily, of which there would be an estimated 2,400 new vehicle trip ends at the hotel garage, loading docks or on streets adjacent to the hotel. The evening peak-hour generation at the site is estimated at 190 trip ends. The daily trips include 100 new charter and tour bus trip ends (50 buses). The number of service and delivery vehicle trip ends is anticipated to be about 60 per day.

Current traffic volumes on streets in the project area were expanded to the year 1982 the assumed year of project completion,, by an annual factor of 1.8%. This factor was developed in the 1970 Downtown Parking and Traffic Survey made by the San Francisco Department of Public Works. The increases in traffic to the year 1982 and the increases estimated for the project are shown in Table 13.

The impact of project traffic on the volume/capacity ratios and corresponding Levels of Service for the nearby intersections are listed in Table 14, p. 113. The current intersection volumes were expanded to the 1982 base year by the same factors as for the street volumes. From that table, all intersections would be operating at Service Level C or better, with the exception of Ellis and Mason Sts. which would be reduced from C to D.

The Hotel Ramada proposes a recessed entry plaza at the southeast corner with access from and to Eddy St. and Fifth St. North and to Mason St. Cars, taxis and buses would use the plaza for passenger loading and unloading. The plaza would be able to accommodate three buses at a time; if there are more than three buses, they would queue at the curbs on Eddy St. and Fifth St. North and wait to unload until space became available. Access to the underground

TABLE 13: PROJECTED 1982 VEHICLE VOLUMES ON THE STREETS SURROUNDING THE SITE

Street	Existing 1980			1982 Base			1982 Base and Project			
	24 Hour	Peak Hour*	Peak 8 Hours	24 Hour	Peak-Hour*	Peak 8 Hours	24 Hour	Peak Hour*	Peak 8 Hours	% Increase Peak Hour**
Ellis	12,600	990	7,190	13,100	1,030	7,450	13,550	1,060	7,590	3
Eddy	5,700	520	3,250	5,900	540	3,370	6,770	610	3,790	13
Mason	5,700	460	3,250	5,900	480	3,370	6,380	520	3,570	8
Fifth St. North	7,500	600	4,280	7,800	620	4,430	8,400	670	4,700	8

*Single peak hour during the peak period between 4:00 and 6:00 p.m.
**Percent increase over 1982 Base traffic volumes.

TABLE 14: PROJECTED 1982 VOLUME/CAPACITY RATIOS AT P.M. PEAK HOUR*

Intersection	Existing V/C Ratio**	Existing LOS***	1982 Base V/C Ratio**	1982 Base LOS***	1982 Base + Project V/C Ratio **	1982 Base + Project LOS***
Ellis - Mason	0.76	C	0.78	C	0.82	D
Ellis - Fifth St. North	0.61	B	0.63	B	0.65	B
Eddy - Mason	0.57	A	0.59	A	0.62	B
Eddy - Fifth St. North	0.50	A	0.52	A	0.55	A
Market - Fourth	0.50	A	0.51	A	0.52	A
Market - Fifth	0.46	A	0.47	A	0.47	A
Market - Sixth	0.74	C	0.76	C	0.77	C
Market - Seventh	0.54	A	0.56	A	0.56	A

*The single peak hour during the peak period from 4:00 to 6:00 p.m.
**This is the ratio of the projected volume to service volume at Level of Service E.
***Level of Service (see Appendix E, Table E-2, p. 211 for a discussion of Levels of Service).

parking would be located in the plaza area. Taxis would queue on Eddy St., replacing the existing parking lane. The taxi queue would have no greater effect on Eddy St. transit operations than does the existing curbside parking.

Three truck bays would be provided on Mason St. near Eddy St. Each of these docks would measure 45 ft. by 12 ft. This would be deep enough to accommodate most trucks without blocking the sidewalk. Long-haul tractor-trailer rigs would be docked occasionally; these are typically about 60 feet in length and would block the sidewalk when docked. Maneuvering space would be on the street and, in the course of docking maneuvers, there would be intermittent blockages of traffic lanes and the sidewalk. Almost all truck deliveries are made during the morning and early afternoon periods. Few of these trips are made during the p.m. peak hour. The largest hourly accumulation noted in the Hilton survey was six trucks; the existing Hilton Hotel has about 1700 rooms and is served by two truck docks. There would be fewer instances of the demand for docking exceeding the capacity of the docks at the proposed Hotel Ramada, with 1000 rooms and three truck docks, than at the existing Hilton Hotel. If no curb space is available when peak demand on the docks occurs, trucks would be double-parked, blocking one lane of traffic on Mason St.

PARKING IMPACTS

The Hotel Ramada proposes 70 individually accessible on-site parking spaces; 130 would be available if valet parking were used. On those occasions when there are local Northern California conventions and a large proportion of guests drive to the hotel, this parking would be fully used. The Hilton Hotel survey indicated that, at other times, approximately 0.15 guest vehicles are parked there per occupied room. The project at full occupancy (1000 rooms) would therefore be expected to produce a demand for about 150 spaces of guest parking. Also from the Hilton Hotel employee survey, about 26% of the employees would be expected to drive or carpool to work. It is assumed that no provision for on-site parking would be made for employees. If two-thirds of the employees were to work the day shift, approximately 100 spaces would be required for employee parking. The total parking space demand of the project would therefore be for about 250 spaces.

There would therefore be an excess daily demand for about 120 spaces, if valet parking were used. From the parking survey, the excess vehicles would be accommodated by the existing lots and garages in the near vicinity. (See Table E-3, p. 223.)

PEDESTRIAN IMPACTS

There would be an estimated 9,600 new pedestrian trips generated by the project; about 1,250 of these trips would be generated during the noon peak hour. The trips would be oriented primarily to the main lobby entrances on Fifth St. North and Eddy St. facing Hallidie Plaza. Projected flows on the adjacent streets, including the pedestrian traffic from the project, are shown in Table 15. The sidewalks around the project are wide enough to accommodate the increased traffic and still maintain an Impeded, but Unconstrained, flow level during the peak-hour periods.

TABLE 15: PEDESTRIAN IMPACTS OF PROJECT - NOON HOUR-PEAK 15-MINUTE PERIOD

Sidewalk	Effective Width (ft)	Existing Trips	Project Trips	Total Trips	Rate*	Pedestrian Flow Level**
Mason St.	9	90	40	130	1.0	Unimpeded
Ellis St.	9	140	150	290	2.1	Impeded
Fifth St. North	6	80	270 ***	350	3.9	Impeded
Eddy St.	9	180	60	240	1.8	Unimpeded

*Rate is the number of pedestrians per minute per foot of effective width of sidewalks.
**Per Pushkarev (See Appendix F, Table F-1, p. 227)
***Primarily trips to and from Moscone Center

Because of the proposed hotel's proximity to the Moscone Center, it is anticipated that pedestrian travel between the hotel and Convention Center would be encouraged. In the EIR for the Yerba Buena (Moscone) Center,

pedestrian trips oriented to the north via Fourth St. and the Pedestrian Concourse were estimated at 3,800 during the peak 15 minutes of the 4:30 to 5:30 p.m. peak hour for a "design day" (a convention with maximum attendance)./2/ Of these, 35% or 1,330 trips would be single mode (walking only) trips. This translates to 4,200 (walking only) pedestrian trips during the p.m. peak hour. This estimate may be somewhat low in view of subsequent proposals for construction of the current project plus the proposed Holiday Inn and Hilton Tower No. 2 on adjacent sites. The proximity of the hotels to the Convention Center would shift trips from other modes of travel, as estimated in the YBC EIR, to the pedestrian mode. The impact of the Moscone Center during days of maximum attendance may be sufficient to cause p.m. peak-hour pedestrian traffic from the hotel to equal or exceed the noon-hour peak. However, the higher element of non-convention-center pedestrian traffic on streets adjacent to the hotel during the noon hour would be expected to maintain that period as the peak condition.

Because of the grid street system, there are numerous routes to and from the Moscone Center, but all trips must cross Market St. The estimated 9,600 daily pedestrian trips from the proposed project at 100% occupancy include multiple-mode trips - i.e., pedestrian trips to a transit system or automobile (except for curbside on the adjacent streets). If an average of 10% of these trips are to the Moscone Center, they would increase the current 52,400 daily pedestrian trips crossing Market St. at Fifth St., Powell St. and Fourth St. by less than 2%.

TRANSIT IMPACTS

Increases in transit trips generated by the project are estimated in Table 16. Guest trips are typically made during off-peak hours. It is assumed, for worst-case analysis, that about 90% of hotel employees either depart or arrive during the 4:00 p.m. to 6:00 p.m. peak period, although, according to G. Porter, Ramada Development Company, the shift change would probably occur between 3:00 and 3:30 p.m.

Table 17, p. 118 shows projected transit ridership for 1982, both with and without project-generated trips. The factors used to project ridership growth

TABLE 16: PROJECT GENERATED PERSON-TRIPS BY TRANSIT

Employees	Facility	24 Hour One-way trips	P.M. Peak Hour One-way trips
	Muni	470	190
	BART	190	70
	AC Transit	60	25
	SamTrans	30	10
	Southern Pacific	30	10
	Other	20	5
Sub-Total		810*	310*
Guests	Muni (Cable Car)	360	40
	BART	90	30
	Other Public Transp.	80	10
	Charter & Tour Bus	1,280	190
	Airporter	420	90
Sub-Total		2,230	360
Total Transit Trips		3,040	670

* Numbers may not add precisely due to rounding.

were derived from the latest available data on annual riderships from the various systems. With respect to the immediate area of the project, the Muni Five-Year Plan previously noted projects conversion of its rolling stock to include articulated buses and trolley coaches, newer standard buses and light-rail vehicles to replace existing street cars on Market St. The N street-car line has recently been converted to the Metro mode as a light-rail vehicle under Market St. The capacity of SamTrans will be increased by the addition of new buses./3/ It is anticipated that the private Airporter bus system would expand its services as required to accommodate the passengers

TABLE 17: 1982 PROJECTED TRANSIT CHARACTERISTICS OF THE PROJECT - P.M. PEAK-HOUR OUTBOUND ONLY

	Existing (1980)		1982 Base		1982 Base + Hotel Ramada		
	Ridership	% Capacity	Ridership	% Capacity	Ridership	% Capacity	% Increase***
Muni*	-	-	15,900	92	16,090	93	1.0
BART	17,000	72	20,400	86	20,500	86	0.4
AC Transit	9,600	85	10,900	96	10,910	96	--
Sam Trans	1,000	80	1,300	87 **	1,310	87	--
SPRR	7,000	70	8,000	80	8,010	80	--
Golden Gate							
Motor Coach	6,200	90	7,100	103	7,100	103	--
Ferry	1,370	65	1,600	76	1,600	76	--
Harbor							
Carriers	430	61	500	71	500	71	--
Airporter	300	75	320	80	410	102	22.0

*Muni projections through 1982 by the Department of City Planning. Lines K, L, M, N, 5, 6, 7, 8, 9, 11, 12, 14, 14L, 14X, 16, 25, 30, 33, 38, 38X, 66, 71, 72; excluding cable cars.
**Sam Trans 1982 capacity assumed to increase by 20% (L. Stuek, Supervisor of Program Development, SamTrans, telephone communication, 16 April 1980).
***Percent increase in ridership over 1982 Base Year; peak-hour ridership on the Powell St. cable car lines would increase by about 2.6% to about 87% of capacity.

from the Hotel Ramada and the two other hotel developments proposed on adjacent blocks./4/ All other system capacities are assumed to remain the same, although it should be noted that BART capacity may be increased as a result of reduced headway times.

CUMULATIVE TRAFFIC IMPACTS

Other pending developments in the project vicinity which would have an impact on traffic and transportation facilities include the proposed 1,000-room Holiday Inn at O'Farrell and Mason Sts. and the proposed 410-room Hilton Tower No. 2 at O'Farrell and Taylor Sts. There are also proposed changes in the directional designations (one-way or two-way) of streets near these hotel sites. In one proposal, Fifth St. North would be converted to two-way operation between O'Farrell and Ellis Sts. In another, Powell St. would be made one-way southbound between Geary and Ellis Sts.; the northbound lane would be reserved for pedestrians and cable cars. In a third proposal, Mason St. would be made two-way between Market and Geary Sts., thus providing a northbound route to accommodate traffic displaced from Powell St., were it to be made one-way southbound.

Using the total vehicle trip end generation rate of 2.9 trips per occupied room, the trip ends estimated for the Holiday Inn at 100% occupancy would be about 2,900 daily and 240 during the peak hour. For the Hilton Tower No. 2, the estimated trips would be about 1,190 daily and 90 for the peak hour. The cumulative p.m. peak-hour traffic volumes on the streets adjacent to the Hotel Ramada are listed in Table 18. This table shows current traffic volumes expanded to the year 1982, volumes added by the other two hotel projects, and total volumes from the other two hotels plus the Hotel Ramada.

From Table 18, the largest proportionate increase in cumulative traffic is projected on Eddy St.. However, the current volumes are low on this street and the cumulative volumes remain correspondingly low.

TABLE 18: PROJECTED CUMULATIVE VEHICLE VOLUMES

Street	1982 Base			1982 Base + Other Hotels				1982 Base+Other Hotels+Hotel Ramada			
	24 Hour	Peak Hour*	Peak 8 Hours	24 Hour	Peak Hour*	Peak 8 Hours	%Increase Peak Hour**	24 Hour	Peak Hour*	Peak 8 Hours	%Increase Peak Hour***
Ellis	13,100	1,030	7,450	13,530	1,070	7,580	4	13,980	1,100	7,830	3
Eddy	5,900	540	3,370	6,510	590	3,650	8	7,380	660	4,130	11
Mason	5,900	480	3,370	6,550	530	3,670	9	7,030	570	3,940	7
Fifth N.	7,800	620	4,430	8,080	660	4,530	6	8,680	710	4,860	7

*Single peak hour during the peak period between 4:00 and 6:00 p.m.
**Percent increase over 1982 Base traffic volume.
***Percent increase over 1982 Base + Other Hotels.

The volume/capacity ratios for the nearby intersections under the same conditions as Table 18 are shown in Table 19. The Service Level at the intersection of Mason St. and Ellis St. would be lowered from Level C to Level D by the project alone or by cumulative hotel development without the project. All other intersections would remain at Level C or better.

The total daily number of buses generated by each project, assuming 100% occupancy, is as follows:

Hotel	Charter	Tour	Total
Hotel Ramada	30	20	50
Hilton Tower No.2	10	10	20
Holiday Inn	30	20	50
Total	70	50	120

Because of the mutual proximity of the three hotels, there may be some overlap in tour buses, since one bus may serve two or more hotels. Of the 120 buses daily (240 trips), 20% or about 50 trips are projected for the hour between 5:00 p.m. and 6:00 p.m. Over 50% of these would be tour buses. The effect of these bus trips has been included in Table 18, p. 120.

The number of delivery and service vehicles which would be generated by the Hotel Ramada has been estimated at about 30 per day. The numbers to the Holiday Inn and to the Hilton Tower No. 2 are estimated at 30 and 10, respectively, giving a total of 70 trucks daily, or 140 delivery- or service-vehicle trip ends. Few, if any, service trips are made during the p.m. peak-hour period. Because of the locations of the three hotels' service bays, about 50% of all trips must pass through the intersection of Ellis and Mason Sts. These trips would be spread fairly evenly over the nine-hour period from 7:00 a.m. to 4:00 p.m., so the average hourly volume through the

TABLE 19: - PROJECTED CUMULATIVE VOLUME/CAPACITY RATIOS AT PEAK HOUR*

Intersection	1982 Base		1982 Base + Other Hotels		1982 Base + Other Hotels + Hotel Ramada	
	V/C Ratio**	LOS***	V/C Ratio**	LOS***	V/C Ratio**	LOS***
Ellis-Mason	0.78	C	0.84	D	0.85	D
Ellis-Fifth N.	0.63	B	0.65	B	0.68	B
Eddy-Mason	0.59	A	0.64	B	0.67	B
Eddy-Fifth N.	0.52	A	0.55	A	0.59	A
Market-Fourth	0.51	A	0.53	A	0.55	A
Market-Fifth	0.47	A	0.49	A	0.49	A
Market-Sixth	0.76	C	0.78	C	0.79	C
Market-Seventh	0.56	A	0.56	A	0.57	A

*The single peak hour during the peak period from 4:00 to 6:00 p.m.
**This is the ratio of the projected volume to service volume at Level of Service E.
***Level of Service (see Appendix E, Table E-2, p. 211, for a discussion of Levels of Service).

intersection would be eight trips. The peak hour for service vehicles is from 7:00 a.m. to 8:00 a.m., at 15% of the daily volume, or ten trips. Figure 31 shows the locations of the three hotels and the proposed access points for each. The larger impact of service vehicles is not travel on the adjacent streets, but lane blockages during docking maneuvers.

Street Pattern Changes Under Consideration. The proposal to change Fifth St. North, presently one-way between O'Farrell and Eddy Sts., to two-way between O'Farrell and Ellis Sts. would leave the one-block segment on the western side of the proposed Ramada Hotel site one-way northbound (see Figure 31). Southbound through-traffic from O'Farrell St. to Market St. would, therefore, not be diverted from Mason and Stockton Sts. to Fifth St. North as the result of the proposed change. The principal effect would be to improve access to the Holiday Inn which is proposed for construction on the block bounded by O'Farrell, Fifth St. North, Ellis, and Mason Sts. (see Figure 31). The proposed porte cochere at the southwest corner of the Holiday Inn site would be entered from Ellis St., and the proposed two-way designation of Fifth St. North would allow the Ellis St. entrances of the proposed Holiday Inn to be reached from O'Farrell St. by a right turn onto Fifth St. North. The curb lane on the west side of Fifth St. North might also then serve to store tour and charter buses for the hotel.

The intersection of O'Farrell and Powell Sts. was observed during the 4:00 to 6:00 p.m. period on Tuesday, 12 August 1980. The peak hour for O'Farrell St. traffic was 5:00 to 6:00 p.m.; 260 vehicles were observed in left-turn movements from O'Farrell St. into the northbound lane of Powell St. These turns, as well as the other turning movements at the intersection conflicted with heavy pedestrian crossing flows so that vehicles were often left in the intersection at the conclusion of the green cycle. Momentary interference with Powell St. through traffic often ensued. The designation of Powell St. as one-way southbound between Geary and Ellis St. would remove these left turns from the intersection and thereby improve operating conditions at the intersection and at the intersection of Powell and Geary Sts. one block to the north. The displaced left turns could then be made at Grant Ave. two blocks east of Powell St.

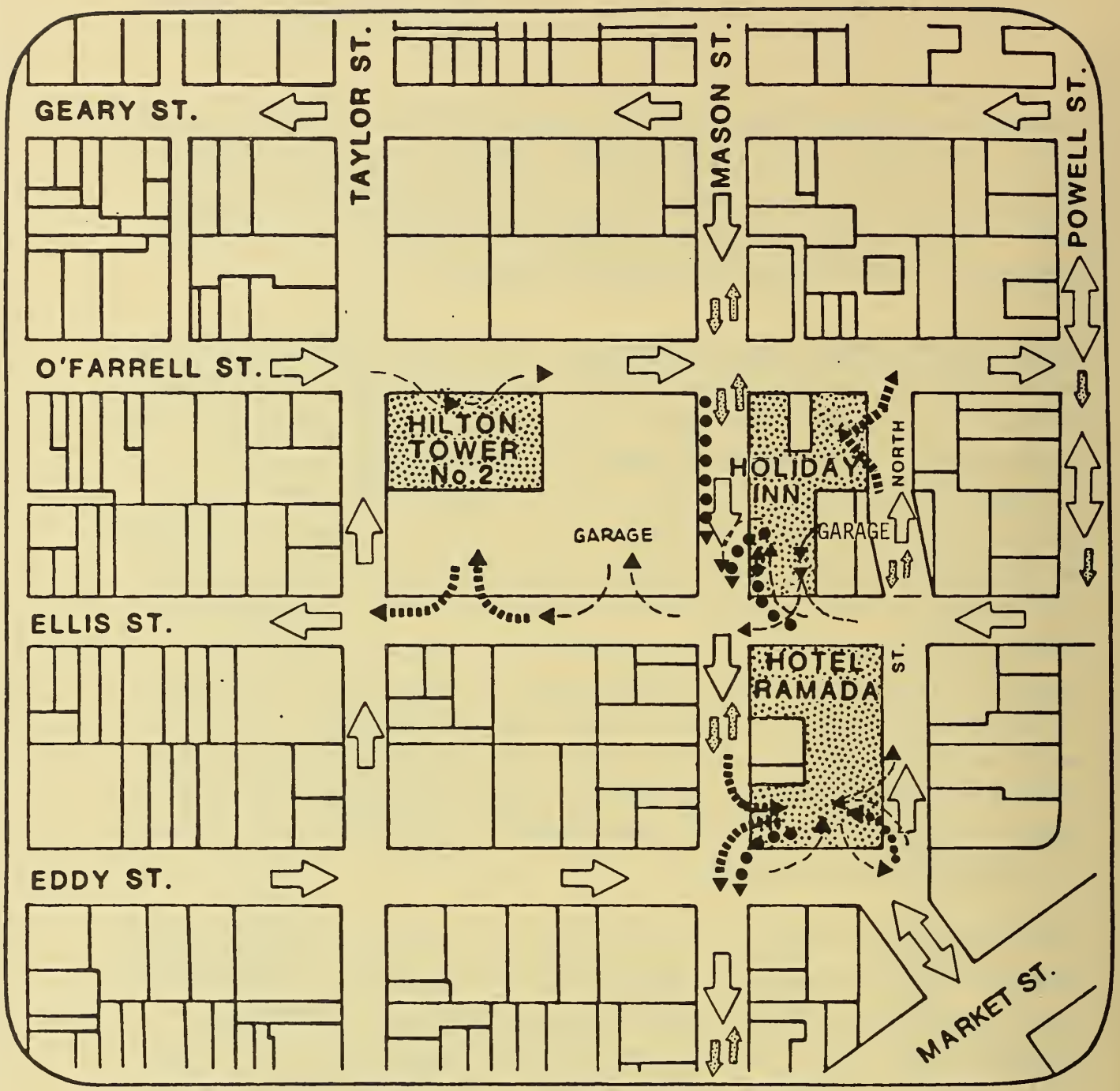


FIGURE 31: CUMULATIVE HOTEL ACCESS IN THE VICINITY OF THE PROJECT SITE

Or, if Mason St. were to be made two-way between Geary and Market Sts., the displaced left turns from O'Farrell St. to Powell St. could be made onto Mason St. northbound. This change would have two effects on the peak-hour volume-to-capacity ratio of the intersection of Mason and O'Farrell Sts. Capacity would be reduced by the loss of one lane in the southbound approach, and the left turns would conflict with pedestrian crossing traffic on the north side of O'Farrell St. and consume additional signal green time. The combined effect would be to increase the ratio of volumes to capacity at the intersection by more than 12%. The impact could be twice as much if the curb lane in the northbound side of O'Farrell St. were not effectively kept clear of stopped vehicles for the left-turning movements from O'Farrell St. to Mason St. The peak-hour service level would be reduced to C or D. The designation of Mason St. as two-way would also attract some of the trips now northbound on Taylor St.

Mason St. as a two-way street would allow buses and perhaps taxis to be loaded or unloaded at the proposed Holiday Inn with the right side nearest the curb. Otherwise, the proposed porte cochere at the southwest corner of the site would have to accommodate buses, taxis, and autos; interference with outbound Ellis St. traffic might otherwise occur as the result of delays in loading and unloading.

Entry to the garage of the proposed Holiday Inn would be from Ellis St. at a driveway east of the porte cochere - a direction contrary to the one-way westbound designation of Ellis St. The two-way designation of Mason and Fifth St. North would allow the vehicles leaving the porte cochere to be dirven clockwise around the block to the garage. Mason St. would then also provide a new more direct access route to the truck docks of the proposed Hotel Ramada from Market St.

CUMULATIVE PARKING IMPACTS

The three proposed hotel projects would effect a net reduction in the existing supply of public off-street parking. The construction of the proposed Holiday Inn and Hotel Ramada would remove 80 and 150 spaces, respectively. The Hilton Hotel Tower No. 2 would not provide any additional public or guest off-street

parking. There is currently sufficient off-street parking available in the general vicinity to absorb this loss. The long-term effect of the hotel projects would be a reduction in the amount of long-term off-street parking. The on-site parking supply and demand figures would be as shown in Table 20.

TABLE 20: CUMULATIVE HOTEL PARKING DEMAND AND ON-SITE

Hotel	On-Site Supply	Demand*	Deficit
Hotel Ramada	130**	250	-120
Hilton (Tower No. 2 only)	220***	100	none
Holiday Inn	160****	250	- 90
TOTAL			-210

*At full room occupancy.
**Assuming valet parking would be used if the garage were full; 150 existing spaces would be eliminated by the Hotel Ramada.
***At full room occupancy during local conventions, guest and public parking spaces in the existing Hilton Hotel's garage are fully occupied; this occurs from three to five weeks per year. Otherwise, there are about 220 vacant spaces in the existing Hilton public and guest parking areas. No new parking is proposed.
****80 existing spaces would be eliminated by the Holiday Inn.

From the Table, there would be an estimated deficit of about 210 spaces in guest parking at the hotels during periods of peak seasonal demand. From the off-street parking survey, there would remain approximately 600 spaces available on an average day to absorb this demand, after construction of the two new hotels has removed 230 existing spaces. On-street parking on the streets adjacent to the hotels would likely also be removed and replaced with passenger loading and taxi zones. The reduction in spaces would depend on the final designation and size of these zones.

CUMULATIVE PEDESTRIAN IMPACTS

It is assumed that the strongest pedestrian attractions would be the area generally northeasterly and southeasterly from the site - to stores,

restaurants, offices and particularly to events at the Moscone Center. The compactness of the downtown area and the attention which has been given to development of lower Powell St. and Market St. into pedestrian-oriented facilities encourage the pedestrian mode of travel. Also, the high level of street lighting on Market St. encourages pedestrian trips in the evening hours.

If 10% of pedestrian trips from the three hotel projects were to the Moscone Center, the daily pedestrian traffic across Market St. could increase by an estimated 7%. This figure includes reorientation of some pedestrian traffic from the existing Hilton Hotel and Tower. Excluding trips from the existing Hilton Hotel and Tower, the increase would be about 4%.

The cumulative effects of pedestrian trips on flow levels on the streets surrounding the Hotel Ramada are given in Table 21. The most heavily impacted sidewalk would be on Fifth St. North which has an effective width of six ft. and would enter a Constrained flow level. In general, the heaviest impact of pedestrian flow would occur on the intervening sidewalks between the hotel and the major attractions. Because of the diversity of possible routes, exact numbers of trips on specific streets and sides of streets cannot be estimated.

TABLE 21: CUMULATIVE PEDESTRIAN IMPACTS - NOON-HOUR PEAK 15-MINUTE PERIOD

Sidewalk	Effective Width ft.	Existing Trips	Other Hotels	Hotel Ramada	Total	Rate*	Pedestrian Flow Level**
Mason St.	9	90	140	20	250	1.9	Unimpeded
Ellis St.	9	120	90	120	330	2.4	Impeded
Fifth St. No.	6	220	130	220	570	6.3	Constrained
Eddy St.	9	60	30	60	150	1.1	Unimpeded

*Pedestrians per foot of sidewalk width per minute.
**See Appendix F, Table F-1, p. 227, for a discussion of pedestrian Levels of Service.

CUMULATIVE TRANSIT IMPACTS

Table 22 lists the cumulative impacts of PM peak-hour outbound transit travel projected for the three hotel developments. The increased ridership on the Muni would be about 2%. All others would be less than 1%, with the exception of SamTrans, estimated at slightly over 2%. The only transit service projected to operate in excess of capacity is the Golden Gate Motor Coach; that condition would occur without the additional hotel ridership. The primary riders would be the new employees, estimated at about 1,200 for all three projects. The travel patterns of all employees were assumed to be similar to those of the existing Hilton Hotel.

The hotel guests would be expected to be heavy users of private transit - charter and tour buses, Airporter, Lorries, etc. - but not of public transit, and typically, not of public transit during the p.m. peak hour. The main public transit attractions for hotel guests are anticipated to be the cable cars (particularly the Powell St. lines), the proposed E Embarcadero street car line and BART. A total of about 100 new guest trips during the peak hour has been estimated for the Muni; it is anticipated that virtually all of these would be on the Powell St. cable cars, increasing the ridership by about 5.5% to 90% of capacity.

Table 22 considers the additional transit ridership generated by the proposed Hotel Ramada, Holiday Inn and Hilton Hotel No. 2 only. However, while the impacts on vehicular and pedestrian traffic and on parking are largely localized, the impact on transit, particularly serving the Downtown, would be imposed on the area-wide systems. These systems must also accommodate projected increases in ridership from a number of other pending developments in the Downtown area. Since these projects would involve a number of different transit routes as well as some of those considered in this analysis, the actual total ridership cannot be calculated reliably.

TABLE 22: PROJECTED CUMULATIVE PUBLIC TRANSIT CHARACTERISTICS - P.M. PEAK-HOUR OUTBOUND ONLY

	1982 Base		1982 Base + Other Hotels			1982 Base + Other Hotels + Hotel Ramada		
	Ridership	%Capacity	Ridership	%Capacity	%Increase**	Ridership	%Capacity	%Increase***
Muni*	15,900	92	16,110	93	1.3	16,300	94	1.2
BART	20,400	86	20,470	86	0.3	20,570	87	0.5
AC Transit	10,900	96	10,940	97	0.4	10,960	97	0.2
Sam Trans	1,300	87	1,320	88	1.5	1,330	89	0.8
SPRR	8,000	80	8,020	80	0.3	8,030	80	0.1
Golden Gate								
Motor Coach	7,100	103	7,110	103	0.1	7,110	103	+
Ferry	1,600	76	1,610	76	0.6	1,610	77	+
Harbor								
Carriers	500	71	510	73	2.0	510	73	+

*Muni totals do not include cable cars.
**Percent increase in ridership over 1982 Base Year
***Percent increase in ridership over 1982 Base Year + Other Hotels
+Percent increase less than 0.1%

It is noted that ridership is averaged over the peak hour in all calculations, and there are periods during that interval when capacity will be reached or exceeded, particularly for the Muni and BART. As ridership increases, these periods will become longer and delay to passengers will increase accordingly.

NOTES - Transportation, Circulation and Parking

/1/ J. MacKay, Haas and Haynie, letter communication, 5 March 1980.

/2/ Yerba Buena Center, Final Environmental Impact Report, Volume 2, prepared for the City Planning Commission and San Francisco Redevelopment Agency, 1978.

/3/ L. Stuek, Supervisor of Program Development, Sam Trans, telephone communication, 16 April 1980

/4/ G. Espoto, General Manager, Airporter Service, telephone communication, 16 April 1980.

G. AIR QUALITY

PROJECT AIR QUALITY IMPACT

Demolition, earthmoving and construction activities would affect local air quality, especially particulate (dust) concentrations, for approximately two years. In contrast to gaseous pollutants and to small-size particulates from combustion, most of the particulates from construction are of large size and settle out of the atmosphere rapidly near the source. In addition, larger particles have less tendency to enter the lungs than small particles. During construction, generation of small-size particulates (less than 30 microns in diameter), which may remain suspended indefinitely and are a health hazard, has been estimated to be at a rate of 1.2 tons per acre per month of activity./1/ This would include emissions from excavation and earthmoving, traffic on unpaved surfaces, wind erosion and construction of structures. Without mitigation, this rate could result in a worst-case 24-hour concentration of approximately 6,900 micrograms per cubic meter (ug/m^3) at and adjacent to the site during the excavation and earthmoving phases. This would be 69 times the State 24-hour standard of 100 ug/m^3.

The use of oil-based paints would generate hydrocarbon emissions, typically 500 to 700 grams per liter of paint used. Hydrocarbon emissions are important because they react with nitrogen oxides in the presence of sunlight to form ozone (smog). Regulation 8, Rule 3 of the BAAQMD prohibits the sale and application of: architectural coatings that contain more than 250 grams of volatile organic compounds (VOC) per liter, except that interior coatings shall contain not more than 350 grams; and any architectural coating (including interior coatings) after 2 September 1980 that contains more than 250 grams of VOC per liter./2/

After completion of the project, approximately 2,900 vehicular trip ends would be generated by the Hotel Ramada per day at full occupancy. The largest percentage traffic increase due to the project would be on Eddy St.; roadside carbon monoxide (CO) concentrations would be increased through the addition of approximately 870 vehicles per day. Current (1980) worst-case roadside CO concentrations on Eddy St. between Mason St. and Fifth St. North are estimated to be approximately 16.9 parts per million (ppm) and 9.0 ppm during the peak hour and peak eight hours, respectively./2/ In 1982, CO concentrations on Eddy St. would be approximately 14.9 ppm and 7.9 ppm during the peak hour and peak eight hours, respectively, without the project; and 15.5 ppm and 8.2 ppm, respectively, with the project. The Federal CO standards are 35 ppm for one hour and 9 ppm for eight hours.

Ellis St. between Mason St. and Fifth St. North does have in 1980, and is expected to have in 1982, the highest traffic volumes, and therefore would have the highest roadside CO levels in the area. Concentrations in 1980 are estimated at 20.0 ppm and 9.8 ppm during the peak hour and peak eight hours, respectively. In 1982, they would be approximately 17.6 ppm and 8.7 ppm, respectively, without the proposed hotel, or 50% and 97% of the Federal one-hour and eight-hour standards. With project-generated traffic, these concentrations would be 17.9 ppm during the peak hour and 8.9 ppm, during the peak eight hours or 51% and 98% of the standards. The project would probably not of itself cause violations of the standards. It would increase concentrations by 0.6 ppm or less on Ellis and Eddy for both one-hour and eight-hour averaging times. On Ellis, worst-case CO levels during peak hour are projected to be within 3% of the standard both without and with the

project./2/ CO levels in 1982 both with and without the project would be reduced from current values because of emission controls on vehicles mandated by state and federal governments. The levels are projected assuming that emission control standards will not change.

The project would also generate pollutants from the combustion of natural gas for space heating and hot water at the Hotel Ramada. Table 23 compares project-generated traffic and building-operation emissions to total emissions in the nine-county Bay Area.

TABLE 23: 1982 DAILY PROJECT-GENERATED EMISSIONS (TONS/DAY)

	Vehicular Fuel Combustion*	Natural Gas Combustion**	Approximate Total Project Emissions	1985 Projected Regional Emissions***
Carbon Monoxide	1.040	negligible	1.040	1,391
Hydrocarbons	0.089	negligible	0.089	777
Nitrogen Oxides	0.107	negligible	0.107	662

*BAAQMD, 1979, EMFAC-5, Vehicular Emission Factors. Calculations were based on the following assumptions: 100% occupancy of 1,000 guest rooms; 2.9 daily trips per occupied room, averaging 11.3 miles per trip; 4 min. idle per trip; and average speed of 30 m.p.h. when not idling.
**"Negligible" denotes emissions less than 0.001 tons per day. This category includes emissions from space heating and hot water backup heating and other building operations. U.S. EPA, 1977, Compilation of Air Pollutant Emission Factors, AP-42 Third Edition, p. 1.4-1--1.4-3.
***W. Crouse, Senior Environmental Specialist, BAAQMD, telephone communication, 9 April 1980. The region is the nine-County Bay Area Air Quality Management District.

SOURCE: Environmental Science Associates

CUMULATIVE AIR QUALITY IMPACT

If the proposed Hotel Ramada, Hilton Tower No. 2, and Holiday Inn were all built simultaneously, high particulates concentrations from construction activities would be spread over a greater area than if the Hotel Ramada alone were constructed.

The cumulative effect of the proposed project and of the recently proposed Hilton Tower No. 2 and Holiday Inn, after completion, on CO levels in the Tenderloin area was estimated./2/ The results of the analysis are shown in Table 24. Peak one-hour CO concentrations on both Eddy and Ellis would be below the standard during worst case conditions. The CO concentrations in 1982 on Eddy and Ellis Sts. averaged over eight hours, if the project, Holiday Inn and Hilton Tower No. 2 were completed, would each be approximately 0.5 ppm and 0.3 ppm higher, respectively, than if no hotel projects were built. Cumulative development could cause the eight-hour standard to be exceeded on Ellis St.

TABLE 24: PROJECTED WORST-CASE CUMULATIVE ROADSIDE CARBON MONOXIDE CONCENTRATION IMPACTS - PARTS PER MILLION (PPM)/2/

Streets	1980	1982 Base Case	1982 Plus Other Hotels	1982 Plus Other Hotels and Hotel Ramada
Ellis (between Mason and Fifth North				
Peak 1-hour (Standard = 35 ppm)	20.0	17.6	18.0	18.2
Peak 8-hour (Standard = 9 ppm)	9.9*	8.7	8.8	9.0
Eddy (between Mason and Fifth North				
Peak 1-hour (Standard = 35 ppm)	16.9	14.9	15.3	16.0
Peak 8-hour (Standard = 9 ppm)	9.0	7.9	8.2	8.4

* This value exceeds the applicable standard.

SOURCE: Environmental Science Associates, Inc.

In summary, cumulative hotel development in the Tenderloin would add to local and regional accumulations of CO, hydrocarbons and nitrogen oxides (the latter two being precursors of ozone) and particulates. During adverse meteorological conditions such as inversions, such accumulations can be great

enough to constitute a health hazard. The recently adopted regional Air Quality Plan/3/ found that ozone was a regional problem and would continue as such in the future, unless substantial reductions in hydrocarbon emissions were made. CO and particulates are problems on a local scale. Because the development would increase emissions of hydrocarbons, CO, and particulates, attainment of the standards would be impeded, although the development would not conflict directly with the control strategies of the Air Quality Plan.

NOTES - Air Quality

/1/ U.S. Environmental Protection Agency (U.S. EPA), 1975, Compilation of Air Pollutant Emission Factors, Supplement #5, p. 11.2.4-1.

/2/ CO calculations were made for the worst-case poor-dispersion meteorological conditions according to the BAAQMD Guidelines for Air Quality Impact Analysis of Projects, 1975, updated for 1979 emission factor revisions. Background concentrations were assumed, on the basis of the average of the second-highest concentrations recorded over the past three years, and emissions projections assuming "minimum reasonable further progress" in ABAG, August 1979, 1979 Update of the San Francisco Bay Area Environmental Management Plan, Figure 2-5, p. 42, to be 14.4 ppm (1-hour) and 8.3 ppm (8-hour) in 1980, and 12.7 ppm (1-hour) and 7.3 ppm (8-hour) in 1982.

/3/ Association of Bay Area Governments, BAAQMD, and Metropolitan Transportation Commission, January 1979, 1979 Bay Area Air Quality Plan, San Francisco Bay Area Environmental Management Plan.

H. NOISE/1/

CONSTRUCTION NOISE IMPACT

Excavation, construction and interior finishing work would take approximately two years, during which noise from construction equipment and procedures would occur. Table 25 shows typical construction noise levels. Foundation work could include about eight weeks of pile driving with an impact-type (hammer) pile driver. Conventional unmuffled and unshielded pile drivers emit noise levels of 100 to 110 dBA/2/ at a distance of 100 ft. each time the driver strikes the pile. The quietest pile driver measured by the City emits 92 dBA at 100 ft., but this type is not always compatible with structural engineering requirements of the building. Assuming noise emissions of 100 dBA at 100 ft., and a 6 dBA decrease in noise levels with doubling of distance from the

TABLE 25: TYPICAL COMMERCIAL/INDUSTRIAL CONSTRUCTION NOISE LEVELS AT 50 FEET

Construction Phase	Average Noise Level
Ground clearing	84 dBA/2/
Excavation	89
Foundations	78
Erection	85
Finishing	89

SOURCE: Bolt, Beranek, and Newman, December 31, 1971, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, U.S. Environmental Protection Agency, p. 20.

sources, noise levels from pile driving would be 88 dBA or above within 400 ft. of the project site, and 82 dBA or above within 800 ft. of the project site, where not shielded by intervening buildings. Indoors, with windows open, noise levels during pile driving would be reduced by 10 to 15 dBA; with windows closed, noise levels during pile driving would be reduced by 15 to 20 dBA. Therefore, indoors with windows closed, noise levels would be approximately 68 to 73 dBA within 400 ft. of the project site, and 62 to 67 dBA within 800 ft. of the project site. Generally, noise levels above 60 dBA interfere with normal speech. Vibrations from the impact of the diesel hammer used to drive the piles would be felt in buildings nearby; these vibrations have been found to be more disturbing to some people than the high noise levels.

Residential hotel and residential uses occur in the center of the U-shaped configuration formed by the project site, and across the streets to the north, west, southwest and south (see Figure 14, p. 28). Other land uses within 100 ft. of the site include transient tourist hotel, office use, and retail or personal service establishments. Inside the Olympic Hotel and the 124 Mason St. apartment building, indoor noise levels when piledriving occurs could range as high as approximately 100 dBA with windows open and 95 dBA with windows closed. Across the streets, indoor noise levels with windows open could range as high as approximately 94 dBA with windows open and 89 dBA with windows closed. Noise levels of this intensity would annoy and distract

residents, employees and customers and prevent sleep. Noise and vibrations from pile driving would also affect guests at the Hilton Hotel and other transient tourist hotels in the vicinity, people using Hallidie Plaza, and office workers in nearby buildings. Vibrations could damage adjacent older buildings.

The San Francisco Noise Ordinance (Section 2907c) limits noise emissions from tools and equipment to 80 dBA at a distance of 100 ft. unless the Director of Public Works has approved intake and exhaust mufflers and shields or shrouds which accomplish maximum noise attenuation. To date, no muffled or shielded pile driver has been approved for use in San Francisco. Thus, use of any impact-type pile driver would be in violation of the Ordinance. However, the Department of Public Works allows pile driver operation under certain conditions, which may include specification of a relatively quiet pile driver to be used, predrilling of pile holes, and specification of hours of operation to reduce the number of people exposed./3/

The San Francisco Noise Ordinance (Section 2907b) also limits noise emissions from any powered construction equipment to 80 dBA at a distance of 100 ft. If this limit were adhered to, powered construction equipment would cause noise levels at the nearest building to be no greater than present maximum intermittent noise levels due to traffic. When maximum traffic noise and maximum powered construction equipment noise occurred simultaneously, the noise level would increase by 3 dBA over that of the maximum traffic noise alone, and would be about 89 dBA at the building nearest the site. Construction noise would be of a more continuous nature, in contrast to the intermittent loud noises produced by buses and other noisy vehicles.

Land uses surrounding the construction site include office space, parking, transient-tourist hotels, retail, entertainment, and residential hotels. At the Olympic Hotel and 124 Mason St., assuming a 15 dBA attenuation from outdoor noise levels indoors with windows closed, levels could reach 77 dBA during use of powered construction equipment. Across the street, indoor noise levels with windows closed could reach 65 to 70 dBA. Normal speech, concentration and rest could be disturbed.

The Hilton Tower No. 2 and the Holiday Inn are also presently proposed to be built in the vicinity of the proposed project during the same period. There is approximately a 6 dBA reduction in noise levels per doubling of distance and the existing Hilton Hotel would serve as a noise barrier for Tower No. 2 construction. Therefore, near the Hotel Ramada and the adjacent Holiday Inn site, noise from construction of these two hotels would overpower any noise from the Hilton construction, which at these locations would be at about the same level as the background noise. In areas to the west of the Hilton Hotel, noise from the Hilton Tower No. 2 would dominate the environment, overpowering the noise impact from the other two sites.

If both the project and the Holiday Inn were built simultaneously, high noise levels in the vicinity of the proposed project would be much more continuous than if only one project were being constructed. When maximum noise generation occurred at both sites simultaneously (not including pile driving), noise levels in the vicinity would be about 3 dBA higher than from the project alone. At an outdoor location 50 ft. from each project, under these conditions, noise levels would be about 92 dBA.

Trucks transporting construction materials and excavated materials produce noise levels of 83 to 93 dBA at 50 ft./4/ The Hotel Ramada project alone would produce truck traffic on the average of 30 to 50 truck trip ends per day. The projected maximum number of hourly truck trips ends is 24 during earth hauling (for route descriptions refer to IV.F., p. 107). Buses and trucks on the routes produce noise levels similar to construction trucks. Maximum noise impacts would occur during the first two months of construction when large haul trucks at a maximum rate of twelve per hour would transport excavated material from the site. Momentary interruptions of conversation along the haul route would result.

If the project, the Hilton Tower No. 2 and the Holiday Inn were constructed simultaneously, construction-related traffic could be as high as 30 trucks per hour, or one truck on an average of every two minutes.

COMPATIBILITY WITH EXISTING NOISE LEVELS

The City of San Francisco has adopted guidelines for determining the compatibility of various land uses with different noise environments (Environmental Protection Element of the San Francisco Comprehensive Plan, adopted by City Planning Commission Resolution No. 7244, 19 September 1974, p. 19). The existing exterior L_{dn} levels/5/ at the site are estimated to be about 65 to 72 dBA. For noise levels over 60 dBA, the guidelines indicate that an analysis of noise reduction requirements should be made and noise insulation features shall be included in the building design./6/ The State of California (California Administrative Code Title 25, Chapter 1, Subchapter 1, Article 4) requires that the interior CNEL/7/ for newly constructed hotels with windows closed be less than or equal to 45 dBA. The State requires that an acoustical analysis be done, showing that the proposed building has been designed to limit noise to 45 dBA inside the guest rooms with windows closed. The City requires that this analysis be submitted to the Superintendent of Building Inspection with the application for a site permit. If windows in the guest rooms of the proposed Hotel Ramada are designed to open, then L_{dn} levels inside the rooms with windows open would be reduced from exterior levels by 10 to 15 dBA to about 50 to 62 dBA. Intermittent noise from individual trucks and buses passing the site would cause interior noise levels to rise temporarily up to approximately 15 dBA. As stated earlier, noise levels above 60 dBA interfere with normal speech.

NOISE IMPACTS ASSOCIATED WITH THE PROPOSED USE

The amount of traffic generated by operation of the project, during any hour of the day, would cause average traffic noise levels on the surrounding streets to increase by less than 2 dBA. A 2 dBA increase in environmental noise is generally not perceptible to the untrained human ear. No noise impact associated with increased traffic would therefore be expected, due to the Hotel Ramada alone. Were the proposed Hotel Ramada, the Hilton Tower No. 2 and the Holiday Inn to be built, a perceptible increase in environmental

noise along nearby streets could occur primarily as a result of tour and charter bus travel by hotel guests.

The mechanical equipment to be used in the structure has not yet been chosen. Historically, mechanical equipment in buildings has increased environmental noise levels in downtown San Francisco./3/ Mechanical equipment noise is regulated by the San Francisco Noise Ordinance, Section 2909, "Fixed Source Noise Levels" (San Francisco Municipal Code, Part II, Chapter VIII, Section 1, Article 29, 1972). The project site and surrounding area are zoned C-3-G and C-3-R. In the C-3-G and C-3-R zones, the Noise Ordinance limits equipment noise levels to 70 dBA between 7:00 a.m. and 10:00 p.m. and 60 dBA between the hours of 10:00 p.m. and 7:00 a.m. at the receiver's property line. During lulls in the traffic, mechanical equipment generating 70 dBA would dominate the site noise environment. If equipment noise were to be limited to 60 dBA to meet the nighttime limit, it would generally be inaudible off-site during the day. Mechanical equipment from the proposed Hilton Tower No. 2 would not be audible on Mason St. and would not be expected to contribute to any cumulative mechanical equipment noise impact generated by the proposed Hotel Ramada and Holiday Inn. Noise from mechanical equipment in both the proposed project and the Holiday Inn, outside the property lines of these hotels, would be less than 73 dBA.

NOTE - Noise

/1/ For a discussion of fundamental acoustical concepts and measurement units, please refer to Appendix H, p. 231.

/2/ dBA is the measure of sound in units of decibels (dB). The "A" denotes the A-weighted scale, which simulates the response of the human ear to various frequencies of sound.

/3/ C. Brady, Senior Mechanical Engineer, San Francisco Department of Public Works, telephone communications, 18 December 1979, 9 and 21 April 1980.

/4/ Bolt, Beranek and Newman, 31 December 1971, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, U.S. Environmental Protection Agency, p. 11.

/5/ L_{dn}, the day-night average noise level, is a noise-level descriptor based on human reaction to cumulative noise exposure over a 24-hour period, taking into account the greater annoyance of nighttime noises (noise between 10:00 p.m.and 7:00 a.m. is weighted 10 DBA higher than daytime noise).

/6/ San Francisco Comprehensive Plan, Environmental Protection Element, adopted 19 September 1974, p. 17.

/7/ CNEL, the Community Noise Equivalent Level, is similar to L_{dn} except that sound level measurements taken between 7:00 p.m. and 10:00 p.m. are weighted 5dBA higher than daytime sounds, in addition to the 10 dBA 10:00 p.m. to 7:00 a.m. weighting.

I. ENERGY

Pacific Gas and Electric Company (PG&E) would be able to provide electricity and natural gas to the proposed project through its existing and available delivery systems. The company anticipates no difficulty in providing the project with complete service./1/ Were the proposed Hotel Ramada the only development in the vicinity, electrical capacity would be sufficient to serve the project. To serve more than one of the three hotel developments which have been proposed in the area, capacity would need to be expanded from 12,000 volts to 34,000 volts. PG&E would lay conduit to the proposed sites from Substation Y at Eddy and Larkin Sts. Street work involving no more than one lane of traffic for five blocks on Eddy St. would take two to three weeks. Work would then move underground and be done through manholes./1/

The project would require the energy equivalent of about 9,700 gallons of diesel fuel or about 1.4 billion British Thermal Units (BTU) - at source /2/ for excavation and hauling of earthen materials for the foundation of the structure. During construction, trucks and equipment are estimated to use about 40,000 gallons of fuel (or about 6.4 billion BTU - at source). The fabrication and delivery of construction materials, including 6,000 tons of steel and about 80,000 tons of concrete, would require about 530 billion BTU - at source. Other construction materials would require a substantial but unknown amount of energy to fabricate and deliver. Construction electrical energy use is estimated to be about 140,000 kilowatt hours (or about 1.4 billion BTU - at source).

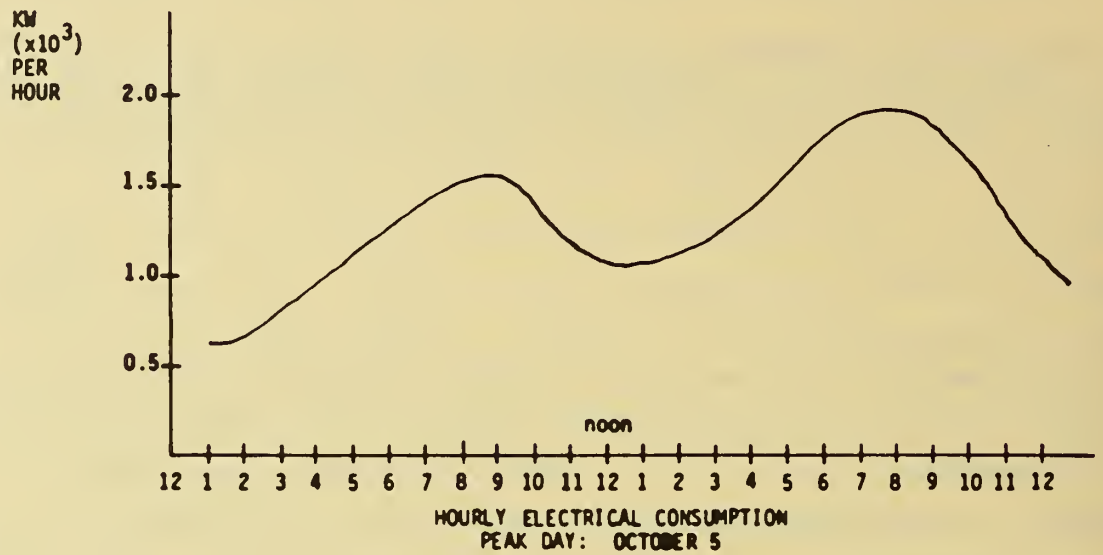
The structure would be designed to comply with the applicable State minimum energy standards; the residential portion would comply with the residential

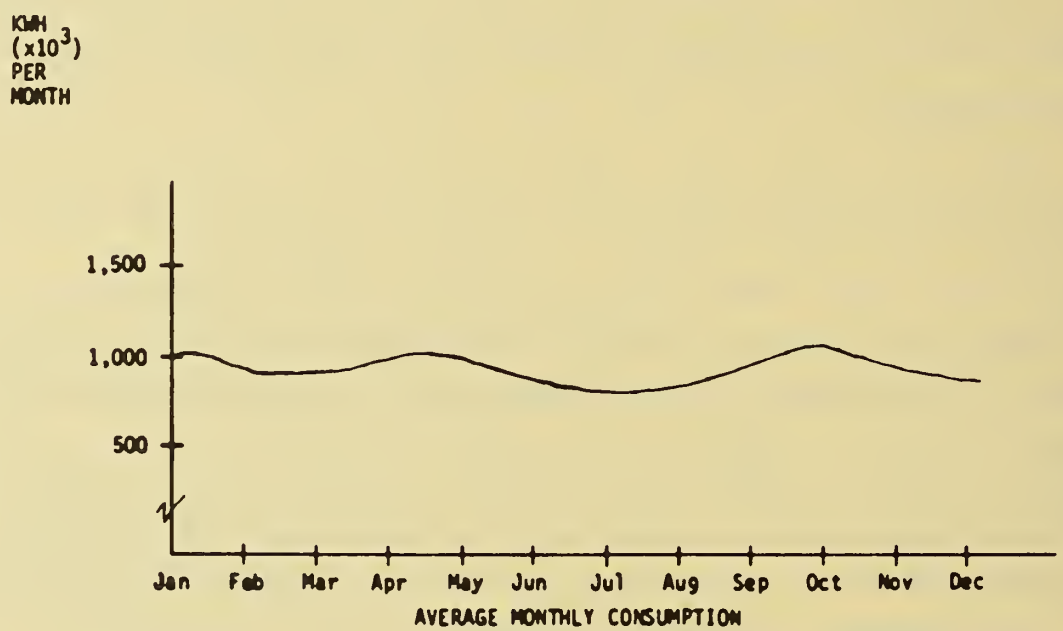
building standards and the lobby, office and other public portions would conform to the non-residential building standards.

The building would be heated with natural gas and its hot water needs would be met with a natural gas unit supplemented by a solar collector system. The building's exterior wall design would have less than the maximum allowable amount of glass, to conserve energy. The insulation which is required in the interior walls as a noise abatement measure also would help conserve energy. Air conditioning would be provided by electric chillers. Installed lights in corridors and bathrooms would be fluorescent. Portable lights in the rooms would be incandescent. Light switches would be individualized to facilitate conservation in the building operation and as many circuits as possible would be controlled by time clocks. The building's electrical system would be programmed to shed non-essential functions during peak electric demand periods. In addition, the temperature in each room would be controlled by an individual thermostat. Energy for cooking would be supplied by natural gas and electric appliances. Access to the various lobby areas from the (lower) street levels would be provided by escalators; access to the upper floors would be by elevators.

During operation, the project would require about 12 million kilowatt hours of electricity per year (120 billion BTU - at source), used primarily for ventilation and cooling. This would be an average monthly consumption of about 1 million kilowatt hours, or about 1.64 kilowatt hours per sq. ft. per month. The total annual use is about the same amount of electricity as the annual electrical use of 3,600 average residential customers in San Francisco. Daily and annual project electric demand curves are shown in Figure 32. The annual electric demand curve is approximately level because the demand for ventilation and elevators does not vary a great deal from month to month. Peak consumption would occur at about 7:00 p.m. in early October due to cooling and ventilation needs; this would not coincide with Pacific Gas and Electric Company's (PG&E) system-wide peak demand period, which occurs on August afternoons.

The project would require about 110 million cu. ft. of natural gas per year (120 billion BTU - at source), used primarily for heating. This would be





SOURCE: Ramada Inns, Inc.

FIGURE 32 : ELECTRIC POWER CONSUMPTION PROFILES

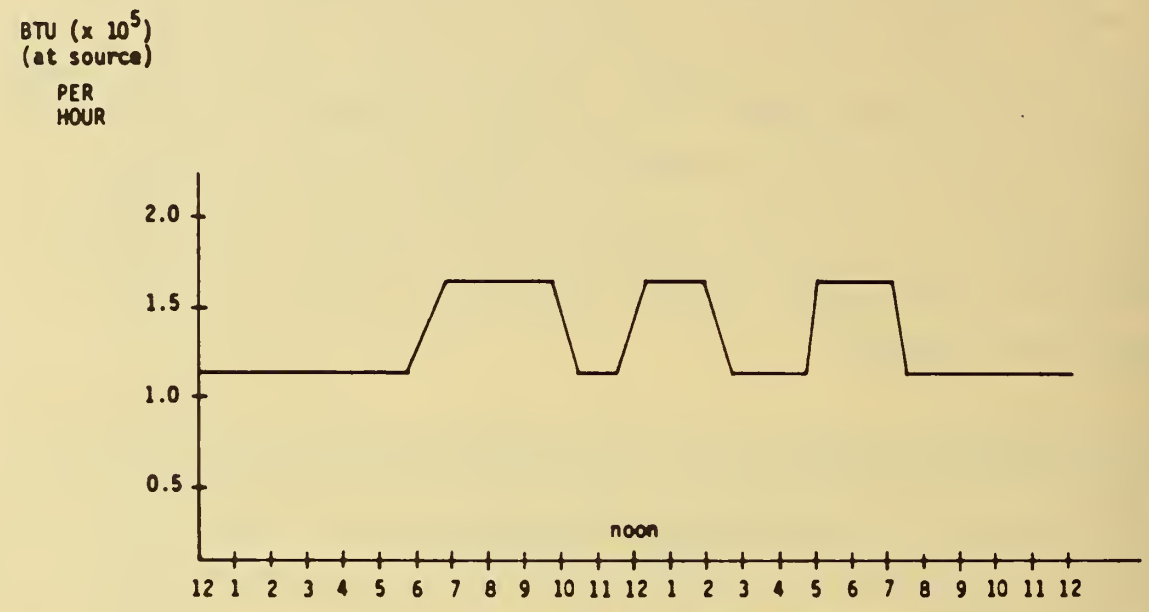
about 540 BTU's per sq. ft. per day. This use by the project is about the same amount of natural gas as is used annually by about 1,000 average residential customers in San Francisco. Daily and annual project natural gas demand curves are shown in Figure 33. Peak daily consumption of about 400 million BTUs would occur on weekdays in February because of increased demand for natural gas to heat hot water when reduced solar energy would be available due to cloudy weather. The peak demand for natural gas would not coincide with the PG&E system-wide peak demand which occurs in the early evening hours in January.

Estimated automobile fuel use for traffic generated by the project would be 500,000 gallons of gasoline per year (about 72 billion BTU - at source). This use was estimated based upon the mix of vehicles expected in 1985. Actual vehicle fuel use is expected to decline until 1995 as the vehicle fleet becomes more efficient. Estimated diesel bus and truck fuel use would be about 230,000 gallons per year (or about 38 billion BTU - at source).

NOTES - Energy

/1/ L. Cordner, Industrial Power Engineer, Pacific Gas and Electric Company, telephone communication, 7 February 1980.

/2/ The "British Thermal Unit" (BTU) is a standard for measuring heat. Technically, it is the quantity of heat required to raise the temperature of one pound of water 1 degree F. (251.98 calories) at sea level. The term 'at source' means that adjustments have been made in the calculation of the BTU energy equivalent to account for losses in energy which would occur during generation and transmission of the various energy forms as specified in: ERCDC, 1977 Energy Conservation Design Manual for New Nonresidential Buildings, Energy Conservation and Development Commission, Sacramento, CA: and Apostolos, J.A., W.R. Shoemaker, and E.C. Shirley, 1978, Energy and Transportation Systems, California Department of Transportation, Sacramento, CA. Proj. #20-7 Task 8.



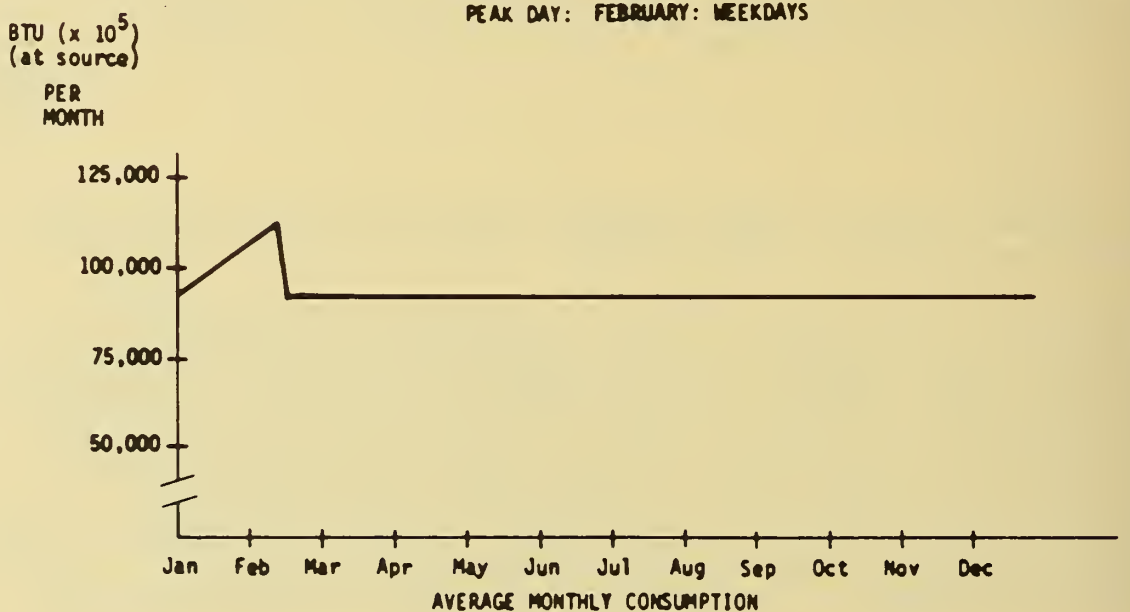


FIGURE 33 : NATURAL GAS CONSUMPTION PROFILES

J. GEOLOGY, SEISMICITY AND HYDROLOGY

GEOLOGY

Detailed foundation and structural plans have not yet been developed for the project. It has not been determined whether pile driving would be required. The project would have a ductile steel frame, designed to resist forces due to winds and earthquakes.

Average excavation depth on the site would be about 30 ft. The dry, sandy material which would form the excavation pit walls would probably collapse if unsupported because of the weight of the overlying materials and the lack of cohesion of the sandy material.

A shoring system would be necessary to support the excavation pit. The safest, most suitable method of shoring would be employed, following the recommendations of the project's structural engineer and geologist, and the requirements of the City of San Francisco. It is also possible that the adjacent buildings remaining on the project block would need to be supported by some sort of tie-back system, which would be designed according to specifications of the project structural engineer and the geologist, and the City./1/

Approximately 47,000 cubic yards of soil material would be removed from the site; it probably would be disposed of at a private site near Oyster Point in San Mateo County. The spoils removal would be in 20-cubic-yard haul trucks and the probable haul route would be south on Fifth St. to Harrison St., then to Sixth St. and then to Highways 280 and 101 to Oyster Point./2/

Much of the soil material removed during excavation would be fairly dry because it is generally above the ground water level. The dry soil may create dust when moved or trucked out (see IV.G., p.130). Some spillage of the excavated material along the haul routes would be expected, creating a safety hazard, particularly for bicyclists and motorcyclists.

SEISMICITY

The site could be subject to "strong" to "very strong" groundshaking during an earthquake./3/ Detailed design plans for the building have not yet been completed. The project would be designed to the requirements of the San Francisco and Uniform Building Codes./1/ If necessary, a dynamic analysis of the proposed structure would be done by the structural engineer. This would determine any weaker portions of the structural design, which would then be revised and strengthened. Details of design would be determined by the structural engineer in conjunction with the geotechnical engineer./1/

Groundshaking during an earthquake might damage the proposed building, but probably would not cause its collapse. The exterior of the building could be damaged and some glass might break or fall onto the sidewalks and streets.

Groundshaking could cause loose panel walls to fall and unattached objects or furniture to move or topple. The glass-enclosed lobby might be damaged by groundshaking, which could cause the glass panels to fall, injuring lobby occupants. Fires could be ignited within the building. Water mains and underground utility lines might break, leaving the building without outside water, power or telephone communication. Emergency water storage and a power generator would be incorporated into the building as required by the San Francisco Building Code.

HYDROLOGY

No increase in runoff is expected as a result of the project, because the site is currently covered by impervious surfacing.

The average excavation depth on the site is expected to be about 30 ft. below the surface, while the average groundwater level is probably about 30 ft. below the ground surface. Therefore, it is possible that dewatering could be required during excavation. This would be determined by actual groundwater levels on the site, and actual excavation depths.

Dewatering could cause settlement in the geologic materials adjacent to the excavation; the amount of possible settlement would be determined by the amount of dewatering required and the duration of dewatering operations. The settlement could cause settlement of adjacent older buildings (particularly the Olympic Hotel and adjacent apartment building combination which would be surrounded on three sides by the excavation pit), and other buildings in the site vicinity, and could cause the walls of old brick and masonry buildings in the immediate vicinity of the site to crack or lean out of plumb. The potential for damage would depend on the amount and duration of dewatering, the expected settling and the strength of the foundations on existing buildings.

Settlement caused by dewatering also may cause cracks or swales /4/ in adjacent streets and sidewalks and could damage underground utility lines. Because of the potentially high costs of repairs associated with such damages, the Department of Public Works generally requires that a surety bond be posted before issuance of permission for excavation. The construction contractor would be responsible for any damage which might result from dewatering. The temporary lowering of the groundwater levels is not expected to have permanent impact upon groundwater conditions in the area, which are expected to return to normal following the cessation of dewatering. During construction, excavated material could be a source of siltation in storm drains. No effects on stormwater runoff quality are expected.

NOTES - Geology, Seismicity, and Hydrology

/1/ W. Ropp, Structural Engineer, DMJM, telephone communication, 2 April 1980.

/2/ J. MacKay, Haas and Haynie Corporation, letter communication, 5 March 1980.

/3/ URS / John A. Blume Assoc., 1974, San Francisco Seismic Safety Investigation, prepared for the Department of City Planning, City of San Francisco.

/4/ A swale is a slight, marshy depression in generally level ground.

K. ENDANGERED SPECIES

Since no rare nor endangered plant or animal species has been recorded or was observed to be present on the site, construction and operation of the project would not be expected to have an impact on any of them.

L. GROWTH INDUCEMENT

The Hotel Ramada would add about 1,000 hotel rooms and about 611,400 gross sq. ft. of new hotel space in San Francisco. The project would represent about a 7% increase in quality hotel rooms in the downtown San Francisco area and about an 11% increase in hotel rooms in the Union Square downtown hotel district.

Tourism is a "basic industry"/1/; therefore, most of the income generated by tourism is from persons living outside of the area and is net or new income to the City. The Hotel Ramada would increase tourism and stimulate the tourist industry in San Francisco by providing additional hotel rooms which could accommodate the increased number of convention participants that are expected to visit San Francisco after the opening of the George R. Moscone Convention Center in October 1981 (see IV.E., p. 101). The proposed hotel would not be expected to contribute to an oversupply of San Francisco hotel rooms because projected hotel room demand indicates that there would be sufficient demand to support 1,000 additional hotel rooms. Cumulatively, the project would not contribute to an oversupply of hotel rooms in the City because projected new room demand attributable to the George R. Moscone Center alone is estimated at 2,700 to 3,500 rooms./2/ Additional demand for hotel rooms by tourists (particularly foreign tourists), commercial travelers and other convention participants would require additional hotel rooms in excess of the approximately 2,600 hotel rooms currently proposed for construction and the estimated 2,500 to 2,800 rooms currently in the informal planning stage (see IV.E., p. 101)./3/

The Hotel Ramada would create about 615 permanent new jobs; over 600 of these jobs would represent a net increase in the employment base of San Francisco. To the extent that the project would attract new employees as well as visitors to the City, it may be viewed as employment-generating and growth-inducing, resulting in a variety of indirect growth effects. These effects could include additional demand for housing. Assuming, for worst-case analysis, that one of each three new jobs at the Hotel Ramada would result in the formation of a new household and that about 2/3 of these new households would want to live in San Francisco, new employment at the project site would create additional (indirect) demand for about 140 housing units. These 140 units would represent about 7% of the combined single-family and multi-family housing units for which building permits were issued in San Francisco in 1979./4/

As about 97% of the Ramada's employees would be service, housekeeping, maintenance and clerical workers, almost all of this housing demand would be for low- and moderate-income units, which are in short supply in San Francisco. Employees who would not live in San Francisco would be expected to contribute to the demand for housing elsewhere in the region. The areas outside of the City which would be likely to provide low- and moderate-priced housing opportunities would be (1) in northeastern Contra Costa County, especially in Pittsburg and Antioch, and (2) in southern Alameda County, particularly in Fremont./5/

The proposed Hotel Ramada would not require any infrastructural improvements that would open or intensify land development opportunities that do not already exist. It would require no new construction or extension of public service or utility systems and would occur in an already developed downtown urban setting. Hotel employees who would be new to the region would demand a variety of commercial, social, medical, and municipal services. This demand would be an indirect growth effect attributable to the Hotel. The proposed Hotel Ramada could contribute to the cumulative growth-inducing effects of hotel development on the retail uses in the area of the Tenderloin near the hotel sites, and the stimulation of residential hotel conversion to tourist hotel uses in this area (see IV.A., p. 67). Cumulative hotel development could raise property values and, therefore, rents. The rehabilitation of

900 residential hotel units under the UDAG program (should it be approved) proposed in conjunction with the Hotel Ramada, would offset this effect somewhat and help maintain low-cost residences in the neighborhood.

NOTES - Growth Inducement

/1/ Tourism is a basic industry because it is a service provided to consumers who come from outside the local market. Since none of the other generally recognized basic industries (e.g. manufacturing, agriculture, and the extraction of natural resources) plays a significant role in San Francisco's economy, tourism is the City's leading source of income. Therefore San Francisco's economy is particularly sensitive to any stimulation of the tourist sector. (Security Pacific Bank, 30 September 1979, Northern Coastal Monthly Summary of Business Conditions).

/2/ The estimated demand of 2,700 rooms attributable to the George R. Moscone Center was obtained from: Laventhol and Horwath, 1 March 1979, Projected Hotel Tax Collections for San Francisco; the 3,500 figure was obtained from R. Sullivan, General Manager, San Francisco Convention and Visitors Bureau, telephone communication, 4 April 1980.

/3/ Hotels in addition to the Hotel Ramada currently being proposed for construction in downtown San Francisco include the 410-room addition to the existing Hilton Hotel; a 1,000-room Holiday Inn; and the 200-room Holiday Inn / Civic Center Addition. Hotels currently known to be in the informal planning stage include a 600-room addition to the existing Sheraton Palace Hotel and two hotels in the Yerba Buena Center area (700 rooms and 1,200 to 1,500 rooms).

/4/ Security Pacific Bank, 31 March 1980, Northern Coastal Monthly Summary of Business Conditions.

/5/ D. Morehead, Regional Relocation Director, Coldwell Banker, telephone communication, 25 July 1979.

M. COMMUNITY CONCERNS/1/

Tenderloin residents have held several meetings for the purpose of identifying community concerns about potential impacts of the three hotel developments proposed in the northeastern Tenderloin./2/ At the first meeting on 23 July 1980, Gerald K. Owyang of the City's Office of Environmental Review presented the plans for the proposed hotels and listened to the comments and questions of local residents. After the meeting, the "Luxury Hotels Citizens Task Force" was formed to develop a list of potential impacts. A second meeting was held a week later which was sponsored by the two County

Supervisors who represent the Tenderloin, Doris Ward and Ella Hill Hutch, in conjunction with the North of Market Planning Coalition, in order to familiarize the residents with plans for the proposed hotels and to acquaint the hotel project sponsors with community views and concerns. Residents had the opportunity to ask questions of representatives of the Hilton Tower No. 2 and Hotel Ramada project sponsors. James Johnson, Director of the Mayor's Office of Community Development, described the UDAG proposal.

Subsequent meetings have been held in the neighborhood with about 150 local residents actively participating. According to Richard Livingston, President of the North of Market Planning Coalition, the two major concerns are "displacement of residents due to conversion of residential hotels and rising rents from the increased land values, and transformation of the Tenderloin Neighborhood to a tourist-based economy."

Other concerns include possible increases in crime, traffic congestion, parking demand and population density; loss of commercial space and foot traffic on Ellis St; reduced open space; and construction impacts on senior citizens residing in buildings near the sites. Bud Doane, Treasurer of the Central Branch YMCA and member of the North of Market Steering Committee, stated, "the Tenderloin has historically been exploited as a neighborhood, and the hotels are only part of the problem ... what is needed is a future comprehensive plan."

The North of Market Planning Coalition conducted a postcard survey to determine what the residents felt should be provided as mitigation measures. From 478 responses, the UDAG low-cost housing proposal received the highest positive response of 76%, increased security received 70%, and 63% thought low-cost meals should be provided. Based on this postcard survey and meetings of "Luxury Hotels Citizens Task Force," a list of suggested mitigation measures was prepared by the North of Market Planning Coalition./3/ A list of mitigation measures that have been agreed upon by the project sponsor is included in V, Table 26, p. 154.

Perceived positive effects of hotel development have also been mentioned by local residents. As Majorie Montelius, Secretary of Traveler's Aid of

San Francisco and member of the North of Market Steering Committee, observed, "San Francisco needs tourists and the proposed hotels will provide jobs, revenues (to the City) and more customers for local businesses."

NOTES - Community Concerns

/1/ Persons contacted in the preparatin of this section include: B. Doane, Treasurer, Central Branch YMCA, telephone communication, 2 September 1980; R. Livingston, President, North of Market Planning Coalition, telephone communication, 28 August 1980; M. Montelius, Secretary, Traveler's Aid Society of San Francisco, telephone communication, 28 August 1980. W. Nunnally, Gray Panthers, telephone communication, 2 September 1980; L. Spear, Vice President, North of Market Health Council, telephone communication, 29 August 1980; and H. Stewart, Director, Senior Escorts and Outreach Program, telephone communication, 2 September 1980.

/2/ The North of Maket Planning Coalition is a group of Tenderloin residents, agencies, and businesspeople who are developing a comprehensive plan to preserve and improve the Tenderloin as a low-income residential neighborhood. The Coalition has received a grant from the San Francisco Foundation to develop this plan. During the past year, it has involved more than a thousand people in its planning process.

/3/ North of Market Planning Coalition, 30 July 1980, list of impacts and suggested mitigation measures distributed July 30, 1980 at a citizens' meeting. The list is available for public review at the Department of City Planning, Office of Environmental Review.

V. MITIGATION MEASURES PROPOSED TO MINIMIZE THE POTENTIAL IMPACTS OF THE PROJECT

In the processes of project planning, design and coordination, a number of measures have been identified that would reduce or eliminate the potential environmental effects of the proposed project. Most of these measures have been adopted by the project sponsors or are under consideration by their architects, builders, or other consultants. A few measures have been rejected. Each of these measures, and its status with respect to the proposed project, is discussed below. Where a measure has been rejected, the reasons for its rejection are also shown (see Table 26).

TABLE 26: MITIGATION MEASURES PROPOSED TO MINIMIZE THE EFFECTS OF THE PROJECT

MEASURES TO BE INCLUDED IN PROJECT	MEASURES RECOMMENDED AND/OR UNDER CONSIDERATION	MEASURES REJECTED (AND REASONS FOR REJECTION)
URBAN DESIGN AND VISUAL ASPECTS		
- The stepped-down heights of the tower from north to south would help provide a visual transition from the existing and proposed large-scale hotel structures north of the site to the smaller-scale older structures to the east, west and south of the site, and to the open area on Hallidie Plaza.	- Additional surface variation, texture and detail could be provided at street and upper levels to better enhance visual interest of project, break up large, uniform surfaces, and complement the scale and texture of nearby older buildings. In particular, surface differentiation could be provided at upper levels of the project to help visually terminate the structure (see VII D.).	
- The building height and cornice line of the southeastern portion of the project would approximately correspond to the height and cornice line of the neighboring historic Bank of America Building at One Powell St.	- The upper levels of the Ellis St. tower in the northern portion of the site could be reconfigured to reduce the bulk of the structure as seen from the north and east, to improve visual transition to neighboring older structures to the north and east, and to add visual interest to the upper levels of the project (see VII D.).	
- The cast-stone exterior and stylized bay window fenestration motif would be in harmony with architectural treatments found in a few neighboring buildings and other buildings generally characteristic of San Francisco.		
- Street trees, entry plaza, ground floor retail uses on Ellis St. and retail shop windows on Eddy St. would provide a degree of pedestrian amenity and interest.		
- The project sponsor would prepare a comprehensive street tree planting and maintenance plan for all site frontages on the block to help visually integrate the project at street level.		
- The project sponsor would be willing to participate in a street landscaping program coordinated with the sponsors of other adjacent proposed hotel developments, should this be desired by the City.		

TABLE 26: MITIGATION MEASURES PROPOSED TO MINIMIZE THE EFFECTS OF THE PROJECT (Continued)

MEASURES TO BE INCLUDED IN PROJECT	MEASURES RECOMMENDED AND/OR UNDER CONSIDERATION	MEASURES REJECTED (AND REASONS FOR REJECTION)
CULTURAL AND HISTORIC RESOURCES		
- Should evidence of cultural or historic artifacts of significance be found during project excavation, the Environmental Review Officer and the President of the Landmarks Preservation Advisory Board would be notified. The project sponsor would select an archaeologist to help the Office of Environmental Review determine the significance of the find and whether feasible measures, including appropriate security measures, could be implemented to preserve or recover such artifacts. The Environmental Review Officer would then recommend specific mitigation measures, if necessary, and recommendations would be sent to the State Office of Historic Preservation. Excavation or construction which might damage the discovered cultural resources would be suspended for a maximum of four weeks to permit inspection, recommendation and retrieval, if appropriate.		
WIND IMPACTS		
- The proposed project would provide street trees along all frontages of the project site and at the main entrances to the project for local shelter for pedestrians from winds.		
- Landscaping or other wind screening would be provided as wind protection at the proposed sundeck on the southwest rooftop area of the structure.		

TABLE 26: MITIGATION MEASURES PROPOSED TO MINIMIZE THE EFFECTS OF THE PROJECT (Continued)

MEASURES TO BE INCLUDED IN PROJECT	MEASURES RECOMMENDED AND/OR UNDER CONSIDERATION	MEASURES REJECTED (AND REASONS FOR REJECTION)
SECURITY IMPACTS - Internal security measures would include a combination of closed-circuit television cameras at selected locations with viewing screens monitored in a central security office; a guard station at the employee entrance which would serve as a control station; and 24-hour roving surveillance personnel with two-way radios. - The project sponsor would meet with the Crime Prevention Bureau of the Police Department to discuss further security measures.		
FIRE - The project design would incorporate fire protection measures required by the San Francisco Building Code. These would include a fire alarm system and an alarm monitoring station which would be equipped to indicate the time and location of a fire, to switch on emergency power sources, and control the elevators. Other requirements would be an automatic fire detection system, a voice communication system, ventilation for smoke control, a standby power generator, an on-site water supply and a sprinkler system on every floor. - The project sponsor would meet with the Fire Marshal to discuss the building design and proposed internal fire protection measures.		

TABLE 26: MITIGATION MEASURES PROPOSED TO MINIMIZE THE EFFECTS OF THE PROJECT (Continued)

MEASURES TO BE INCLUDED IN PROJECT	MEASURES RECOMMENDED AND/OR UNDER CONSIDERATION	MEASURES REJECTED (AND REASONS FOR REJECTION)
WATER		
- Low-flow plumbing fixtures would be used to conserve water.		
SOLID WASTE		
- A trash compactor would be used to help reduce the need for landfill space.		
- The solid waste storage facilities would be designed to provide separate storage facilities for glass, newspapers and other recyclable waste; the Hotel Ramada would implement a recycling program.		
TRANSPORTATION, CIRCULATION AND PARKING		
- The project sponsor recognizes the need for the expanded transportation services to meet the peak demand generated by cumulative development in downtown San Francisco and would participate in a fair and appropriate mechanism, such as a Downtown Assessment District, to provide funds for maintaining and augmenting transit, in an amount proportionate to the demand created by the project, should such a funding mechanism be developed by the City.	- The project sponsor would be willing to participate on a proportional basis with other hotels proposed in the vicinity in a shuttle bus system between the Hotel Ramada and Moscone Center for use by hotel guests attending conventions at the Center, should such a shuttle bus system be desired by the City.	- Parking in the hotel garage would not be preferentially allocated to employee carpool and vanpool vehicles because, in the opinion of the project sponsors, the reservation of hotel parking for hotel guests would discourage private vehicle use by employees.
- The project sponsor would encourage transit use by employees through the sale on-site of BART and Muni passes to employees, and by encouraging an employee carpool and vanpool system in cooperation with RIDES for Bay Area Commuters.	- The intersection of Ellis and Mason Sts. would be operating at Level of Service D under traffic increases from the Hotel Ramada and other two proposed hotel projects. Mitigation of this impact would be possible through restriping of the southbound approach. The approach currently is striped to carry two lanes of traffic (a through lane and a right-and-through). Use of a towaway lane on the west side of the street to allow a right-turn-only lane would help alleviate the problem. Such a measure would be entirely under the jurisdiction of the Bureau of Traffic Engineering and would be considered by it at such time as the projected conditions develop.	
- The project sponsor, in consultation with the Department of City Planning, would implement a system for employee working hours to reduce peaks of congestion on the City transportation system.		

TABLE 26: MITIGATION MEASURES PROPOSED TO MINIMIZE THE EFFECTS OF THE PROJECT (Continued)

MEASURES TO BE INCLUDED IN PROJECT	MEASURES RECOMMENDED AND/OR UNDER CONSIDERATION	MEASURES REJECTED (AND REASONS FOR REJECTION)
- Within a year from completion of the project, the Hotel Ramada would conduct a survey in accordance with methodology approved by the Department of City Planning, to assess actual trip generation patterns of project occupants, and actual pick-up and drop-off areas for carpoolers and vanpoolers. The results of this survey would be made available to the Department of City Planning. - Adequate secure and safe bicycle parking facilities would be provided to meet the demand generated by project employees. - The proposed entrance and unloading area and tour and charter bus waiting area would remove a potential source of congestion from the streets.		
AIR QUALITY - During excavation unpaved surfaces would be wetted to hold down dust; if this were done twice a day with complete coverage, particulate emissions would be reduced about 50%. - Water-based or latex paints would be used on all interior walls painted by the general contractor or project sponsor, rather than oil-based paints which emit hydrocarbons while drying; this would reduce hydrocarbons from drying paint by about 60%.		

TABLE 26: MITIGATION MEASURES PROPOSED TO MINIMIZE THE EFFECTS OF THE PROJECT (Continued)

MEASURES TO BE INCLUDED IN PROJECT	MEASURES RECOMMENDED AND/OR UNDER CONSIDERATION	MEASURES REJECTED (AND REASONS FOR REJECTION)
NOISE		
- To minimize disturbance of neighborhood residents, construction activities would not commence until after 7:00 a.m.	- Should piledriving be necessary, holes for the piles would be predrilled, if feasible, to reduce vibration and noise impacts from piledriving. The feasibility of predrilling would be determined after receipt of soils tests and development of the final structural design of the building.	
- To minimize construction noise, only muffled gasoline and diesel-powered construction equipment would be used. Equipment (with the exception of pile drivers) would be muffled to 80 dBA at 100 ft. in accordance with the San Francisco Noise Ordinance (Section 2097b).	- The project sponsors are considering development of a program to alleviate the impacts of noise from piledriving (should piledriving be necessary) on nearby residents who are generally confined to their homes because of age, disability or ill health.	
- Driving of piles, should this be necessary, would be done in the shortest time period possible and would be limited to hours resulting in the least disturbance to neighborhood uses.		
- The level of vibration in the two adjacent buildings would be mechanically monitored during piledriving.		
- The project sponsor intends to meet with the Bureau of Engineering and the Office of Environmental Review to determine other necessary and feasible measures to mitigate construction noise from piledriving which would be satisfactory to all parties.		
- The mechanical equipment in the building would be muffled to comply with the City Noise Ordinance, Section 2909.		
- An acoustical analysis would be conducted by a qualified acoustical engineer to ensure that CNEL noise levels inside the guest rooms when windows are closed would conform with the State Administrative Code (Title 25).		

TABLE 26: MITIGATION MEASURES PROPOSED TO MINIMIZE THE EFFECTS OF THE PROJECT (Continued)

MEASURES TO BE INCLUDED IN PROJECT	MEASURES RECOMMENDED AND/OR UNDER CONSIDERATION	MEASURES REJECTED (AND REASONS FOR REJECTION)
ENERGY		
- The building design would have less than the maximum allowable amount of exterior window area (40% is the maximum) to conserve energy.	- The project would include an appropriate load-management system to minimize peak-hour electric power demands. The specifics of the system are currently under consideration by the project engineers.	- The access to the various lobby levels from lower street levels could be provided by a stairway system instead of an escalator system to conserve electric energy. This was rejected by the project sponsors because the escalator design is intended to separate pedestrian traffic to different levels in the hotel.
- Wherever possible, the lighting system would have individualized switches, time clock operation and use fluorescent lights to conserve electric energy.		
- Solar collectors on the roof would be used to heat hot water for the hotel.		
GEOLOGY		
- Excavation pit walls would be shored up and protected from slumping or lateral movement of soils into the pit. A study would be done to determine the proper shoring system for the portions of the construction site adjacent to the existing buildings. The shoring system would be constructed in compliance with the excavation standards of the California Occupational Safety and Health Agency (Department of Industrial Relations).		
- The two buildings adjacent to the site would be surveyed to document the existing structural conditions; the project sponsor would then protect the two buildings as required by Code.		
- The project sponsor would conduct a detailed foundation and structural design study for the building, and would follow the recommendations of both the structural engineer and the geotechnical consultant.		

TABLE 26: MITIGATION MEASURES PROPOSED TO MINIMIZE THE EFFECTS OF THE PROJECT

MEASURES TO BE INCLUDED IN PROJECT	MEASURES RECOMMENDED AND/OR UNDER CONSIDERATION	MEASURES REJECTED (AND REASONS FOR REJECTION)
- The general contractor would cover the loads of haul trucks carrying excavated material to reduce dust and potential spills on the streets. - All streets adjacent to the construction site would be swept so that silt would not be washed into storm drains and dust would be reduced. - The general contractor would confine construction equipment maintenance and refueling activities to areas of the site where petroleum spills could be contained. - The general contractor would construct wet or dry catch basins on the site to trap silt and debris, which could later be transported to dumps.		
SEISMICITY - The project would be designed and constructed in compliance with the recommendations of the structural engineers and in accordance with the standards of the San Francisco and Uniform Building Codes. - All nonstructural building elements, such as hanging light fixtures, hung ceiling and wall partitions and mechanical equipment, would be firmly attached and anchored to walls and ceilings to reduce the possibility of their fall during an earthquake.		

TABLE 26: MITIGATION MEASURES PROPOSED TO MINIMIZE THE EFFECTS OF THE PROJECT

MEASURES TO BE INCLUDED IN PROJECT	MEASURES RECOMMENDED AND/OR UNDER CONSIDERATION	MEASURES REJECTED (AND REASONS FOR REJECTION)
- An emergency water supply and pumps would be provided as required by the San Francisco Building Code so that the sprinkler sytem would be more likely to be operable after an earthquake. This emergency measure would mitigate the potential hazard created by fires occurring at a time when the water supply may be cut off by earthquake damage to water mains.		
HYDROLOGY		
- The amount of dewatering required on the site and the best practical method for accomplishing the dewatering would be determined by the geotechnical engineer.		
- Dewatering would be done within the excavation area only, in accordance with the recommendation of the geotechnical engineer.		
- Groundwater observation wells would be installed to monitor the water table level outside of the excavation pit.		
- The City would require a lateral and settlement survey to monitor any movement or settlement of surrounding buildings and adjacent streets during the dewatering and foundation work. Control lines and benchmarks would be established for monitoring horizontal and vertical movement. Costs for the survey and any necessary repairs to services under the streets caused by project-related construction activities would be borne by the contractor or the project sponsor.		

VI. SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

URBAN DESIGN ASPECTS

The project would shade a portion of Hallidie Plaza late in the early evening in June; adding to shading by existing buildings at that time. Under westerly wind conditions, the project would increase wind speed ratios on Eddy St. between Mason St. and Fifth St. North from the low-to-moderately-low range to the moderate-to-moderately-high-range.

TRANSPORTATION

Construction hauling would temporarily increse traffic on access streets and haul routes. Project-generated vehicular traffic would increase peak-hour traffic on the surrounding local streets. The percent increases in project-generated traffic above the 1982 projected base traffic volumes would range from about 3% on Ellis St. to about 13% on Eddy St. during the peak hour.

AIR QUALITY

Construction of the project would temporarily increase particulate levels in the area in excess of State standards during the two-year construction period. Pollutants generated by project-related vehicular traffic, including tour buses and trucks, would impede the attainment of air quality standards.

NOISE

Construction of the project would temporarily raise noise and vibration levels in the vicinity, causing annoyance to residents, hotel guests and employees in

neighboring buildings. If piles were to be driven, piledriving would occur for about eight weeks.

ENERGY

Operation of the project would require about 12 million kilowatt hours of electricity (generated primarily by nonrenewable fossil fuels) and about 110 million cu. ft. of natural gas per year. Project-generated traffic would use an estimated 500,000 gallons of gasoline and 230,000 gallons of diesel fuel per year.

CUMULATIVE DEVELOPMENT

During construction, the project would contribute to the cumulative construction-related traffic, noise and vibration, and air-quality impacts of hotel development currently proposed for the northeastern Tenderloin District. Operation of the project would contribute incrementally to the cumulative traffic, transit and air-quality impacts and employee housing demand of hotel development proposed in the vicinity. The Hotel Ramada, along with the proposed Hilton Tower No. 2 and Holiday Inn, would increase the visual density of development in the area.

In the short run, cumulative hotel development could increase pressure for the conversion of residential hotels to transient tourist hotels in the Tenderloin District, if the present conversion moratorium is removed in November 1980. In the long-run, hotel conversions would decrease when sufficient hotel rooms have been constructed to meet existing and projected hotel-room demand. Cumulative hotel development could cause some local-serving businesses to be displaced by tourist-serving businesses, and raise land values in the vicinity of the hotel sites, contributing to increased residential and commerical rents.

VII. ALTERNATIVES TO THE PROPOSED PROJECT

A. NO-PROJECT ALTERNATIVE

In this alternative, as defined by the California Environmental Quality Act (CEQA), the project site would remain as it now exists. The visual quality of the project site would remain essentially as described in III. B, p. 38, Urban Design and Visual Factors. Presumably, the one-story structure at the corner of Ellis and Mason Sts., which has been damaged by fire, would eventually be demolished or restored. In its present condition, the site represents a fragmented urban design composition which fails to relate effectively in scale or character to existing and proposed neighboring structures.

The project site would continue to generate about $21,700 per year to the City and County in property taxes (increased at 2% per year). Should portions of buildings currently unoccupied because of fire damage be restored by the property owner, there would be increased retail use of the project site. New retail uses would probably be similar to the marginal retail uses currently occupying the project site. The site would continue to generate an estimated $1,400 of annual sales tax revenues to the City and County, plus sales tax revenues from new retail tenants who would occupy the site after building repair. No new construction or permanent employment (other than several possible retail jobs) would result. This alternative would not add new hotel rooms to the San Francisco hotel room stock.

If no project were to be developed on the site, the traffic and transit conditions described in IV.F, pp. 119-130 as 1982 Base case with cumulative development, and the air quality conditions resulting from this traffic on nearby streets, would occur. Other conditions described in the Environmental Setting (III. A through III K., pp. 25-66) would generally continue. Project-generated construction noise, air quality, traffic and vibration

impacts would not occur. Demands for community services and housing would remain unchanged. This alternative would preserve options for future hotel or other types of development at the site.

The project sponsors have chosen to propose the Hotel Ramada at this time so that the 1,000 guest rooms proposed would be available to meet the anticipated demand generated by the George R. Moscone Convention Center. Following current schedules, the Moscone Convention Center would open in 1981 and the Hotel Ramada would open in 1982.

B. REDUCED-HEIGHT ALTERNATIVE

The project design could be modified so that the height of the building would be reduced and no bonus floor area would be required under the provisions of the City Planning Code. In this alternative, the height and floor area of the base building would be the same as that of the project. A 16-story guest room tower, similar in shape to the L-shaped, mid-rise tower level of the proposed project, would be constructed above the four-story base building (see Figure 34 and Figure 35 , p. 168), for a total building height of about 250 ft. at Ellis St. Total gross square footage of this alternative, excluding mechanical and parking space, would be about 416,000 sq. ft.; this would be about 600 sq. ft. of floor area less than the Basic Floor Area Ratio (FAR) of 10:1, so no floor area bonuses would be required. The alternative design would contain about 590 guest rooms or about 60% of the number proposed. Exterior treatment of the building and landscaping plans would be similar to those of the project.

The urban-design and visual effects of this alternative would be similar to those of the proposed project, except that the lower height of the north tower would reduce general project visibility from distant vantage points. The lower height would also reduce the apparent bulk of the project, and would more closely complement the scale of neighboring older buildings than would the proposed project. This alternative would generally have similar light and shadow effects similar to those of the proposed project. The lower height of the north tower would cast shorter shadows on Mason and Ellis Sts. during

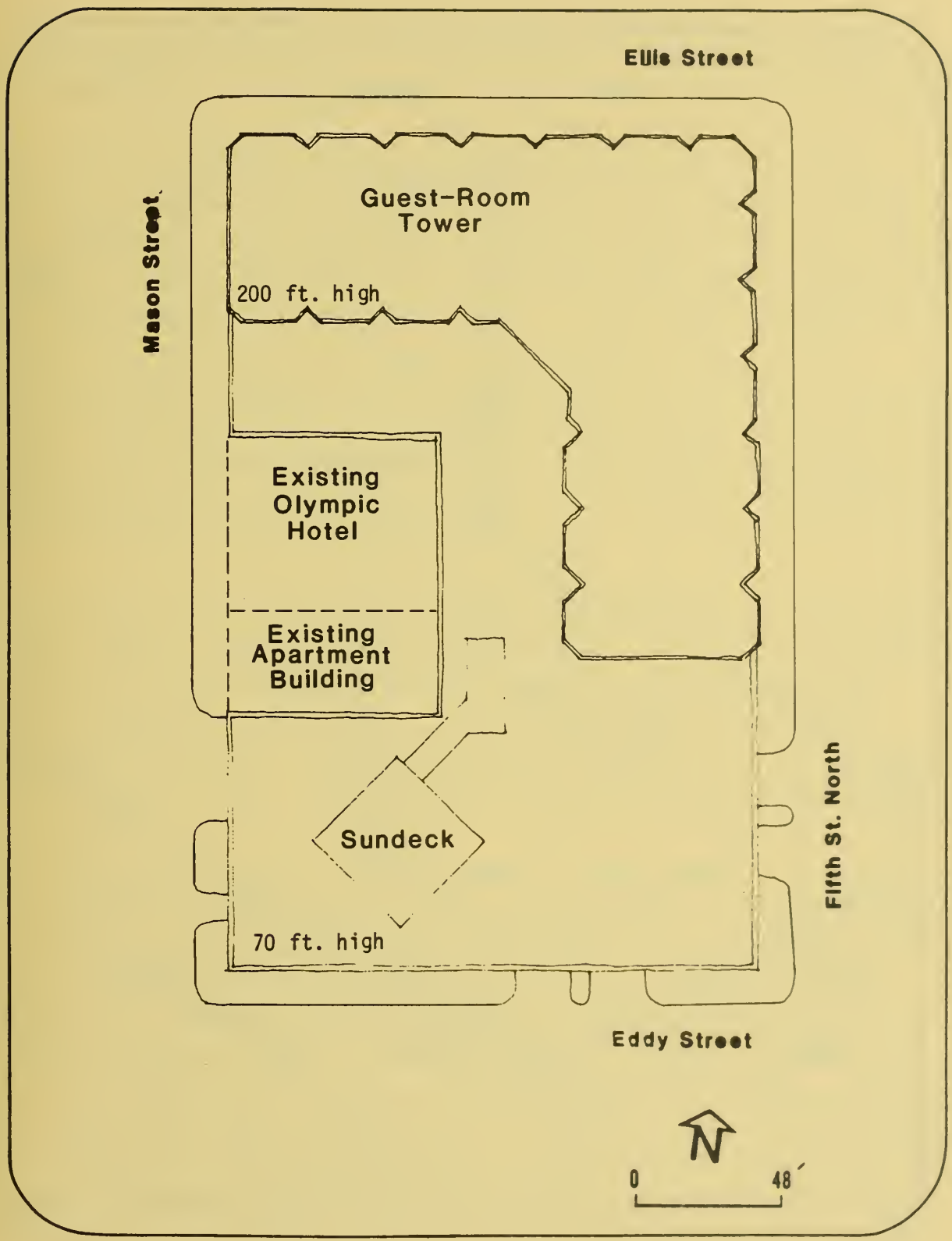


FIGURE 34: REDUCED HEIGHT ALTERNATIVE - SITE PLAN

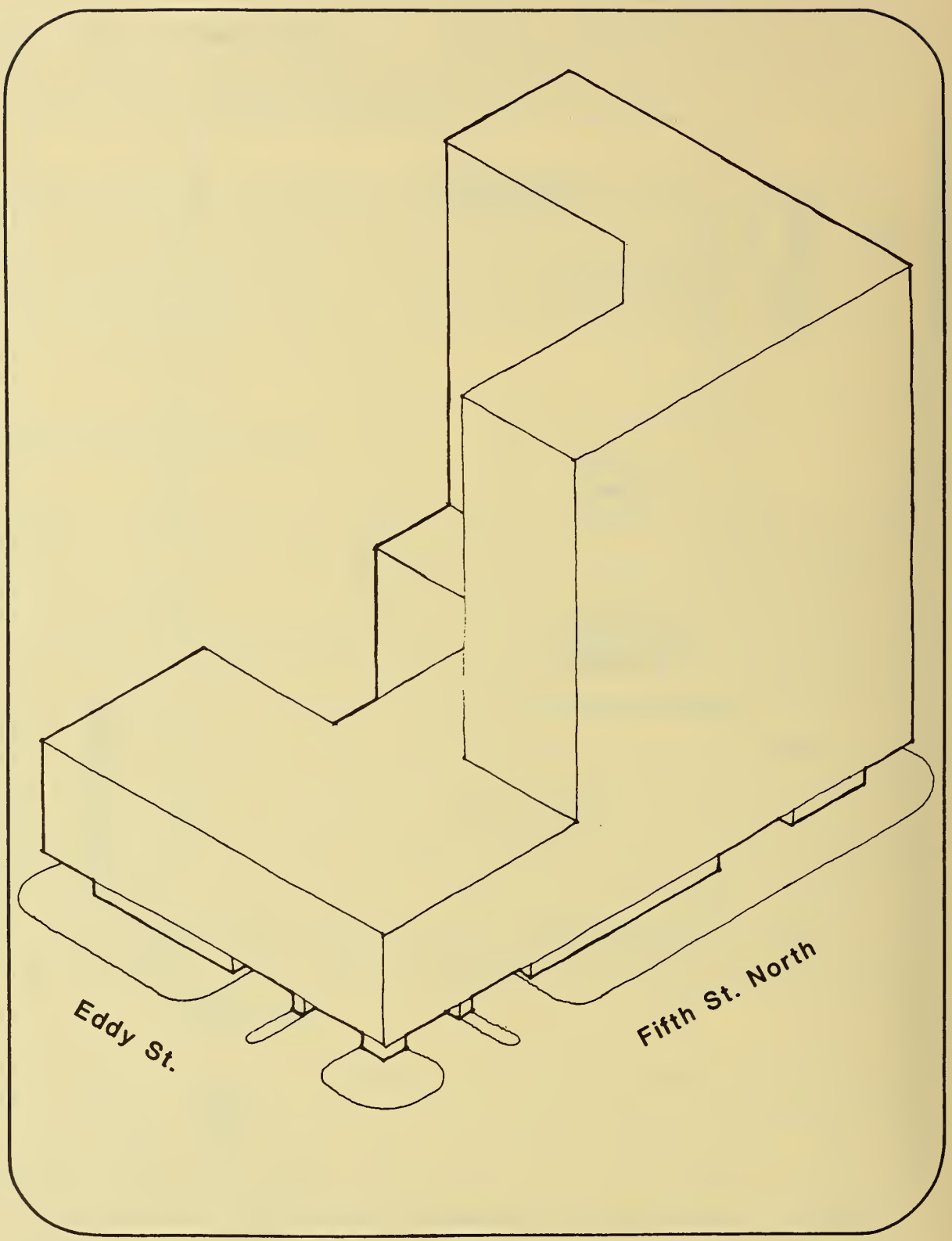


FIGURE 35 : REDUCED HEIGHT ALTERNATIVE - ISOMETRIC VIEW

summer mornings. During mid-day hours in winter, the shadow cast by this alternative would not reach O'Farrell St., as it would in the proposed project.

For northwest winds, this design would have effects similar to existing conditions, as the height of the lower tower would not extend above upwind structures, such as the Hilton Hotel, located to the east of the site. The vehicle entrance plaza would have low wind speed ratios and the rooftop area would have moderately low wind speed ratios. For west winds, this modified design would not increase wind speed ratios along Eddy and Ellis Sts., as would the project. Along Mason St., it would decrease wind speed ratios from 10% to 20% below existing and project-generated conditions. Winds would be similar to the proposed project along Fifth St. North. Wind speed ratios in the vehicle entrance plaza would range from low to moderate. Rooftop outdoor areas would have moderate wind speed ratios.

Water use for this alternative would be about 103,000 gallons per day (gpd), or about 40% less than that of the proposed project. Sewage generation would be similarly reduced to about 97,500 gpd. The Police and Fire Departments would be expected to receive fewer calls for service due to the reduced population on the site. This alternative would generate a little over one ton of solid waste per day, or about 60% that generated by the project as proposed.

About 350 jobs, or 265 fewer than the proposed project, would be provided in this alternative design. The decrease would primarily be on the categories of bellpersons, and laundry and housekeeping positions. This design would have an estimated total fair market value of $38.1 million, and an estimated assessed value of about $9.5 million, generating a net addition to the San Francisco property tax base of about $9 million. The market value and the addition to the property tax base of this alternative would be about 30% less than that of the project at $52.5 million. This design would generate between $302,000 and $381,000 in net property tax revenues to the City and County, as compared to between $423,000 and $531,000 generated by the proposed project design.

This alternative would have about 410 fewer rooms and would generate about 40% less in hotel tax revenues. Hotel-generated sales tax revenues would be

expected to decrease because there would be a 40% reduction in the number of rooms and guests staying at the hotel in this alternative. There would be about 410 fewer hotel rooms available to meet projected demands than with the proposed project.

Project employees in this alternative would generate a demand for about 80 housing units; this would be 60 units fewer than the 140 units demanded by the proposed project.

The numbers of traffic, transit and pedestrian trips generated, and parking spaces demanded, by this alternative design would be approximately 60% of those generated by the project as proposed. Levels of Service at the intersections in the site vicinity would remain the same as for the proposed project. The number of tour and charter buses would decrease from an estimated 50 per day to 30. Since the on-site entrance driveway and bus loading area of the proposed project would also be a part of the alternative design, the decrease in the number of buses would result in a decrease in the occasions when the bus unloading areas would be full and buses would have to load or unload at curbside. There could also be a reduction in service vehicles, but this is not anticipated to be proportional to the decrease in the number of guest rooms.

According to the project sponsor, the reduced-height alternative was rejected because it would contain fewer hotel guest rooms to offset the cost of the land. The higher per-room costs of construction and operation of a smaller hotel would result in higher room rental rates, making the hotel less competitive with existing and proposed hotels. In the opinion of the project sponsor, the height of Eddy St. and Fifth St. North facades of the alternative would not relate as well architecturally to the Bank of America Bldg. at One Powell St. as would the proposed project, nor would the design provide as marked a transition between the smaller-scaled buildings to the south and southwest and the larger existing and proposed hotel structures to the north as would the project. The alternative would generate a smaller qualifying private capital investment and would, therefore, provide the basis for a smaller UDAG program for the rehabilitation of residential hotels in the Tenderloin.

C. TWO-TOWER ALTERNATIVE PROVIDING BOTH HOTEL ACCOMMODATIONS AND APARTMENT HOUSING

In this alternative, the height and the floor area of the four-story base building would be the same as those of the proposed project. A 140-ft.-high tower, fronting on Eddy St., would be constructed above the base containing four stories of one-bedroom apartments (ten units per floor), for a total of 40 units. An elevator bank would be located in the base building to provide access to the 36,000-gross-sq. ft. apartment tower. Each apartment would contain about 600 sq. ft. and would rent for about $1,500 per month (1980 dollars). A second 320-ft.-high tower would be located fronting on Ellis St., opposite the Eddy St. tower, and would contain 28 floors of guest rooms (about 22 rooms per floor) above the base building for a total of approximately 620 guest rooms. Total gross floor area for this alternative would be about 460,000 sq. ft., excluding mechanical and parking space. This alternative design would comply with the provisions of the 160-G and 320-I Height and Bulk Districts on the site. Exterior treatment of the building would be similar to that of the proposed hotel (see Figure 36 and Figure 37, p. 173).

The urban design and visual effects of this design would be similar to those of the proposed project, except that the elimination of the mid-rise tower along Fifth St. North would reduce the apparent bulk of the project as seen from that frontage. The visual discontinuity between the low-rise and highrise portions of the project that would be created by the elimination of the intervening mid-rise tower would reduce the effectiveness of the stepped transition from south to north which is a feature of the proposed project. The height and scale of the low-rise tower along Eddy St. would less effectively complement neighboring older structures, especially the Bank of America building at One Powell St., than would the proposed project.

This alternative design would generally have light and shadow effects which would be similar to the project. However, because of the separation of the two towers, this alternative would cast shorter shadows on Mason St. during spring, fall and winter mornings, and on Fifth St. North during spring, fall and winter afternoons. If a sundeck, pool or other recreation area were to be built on the roof between the two towers, the 140-foot tower would cast

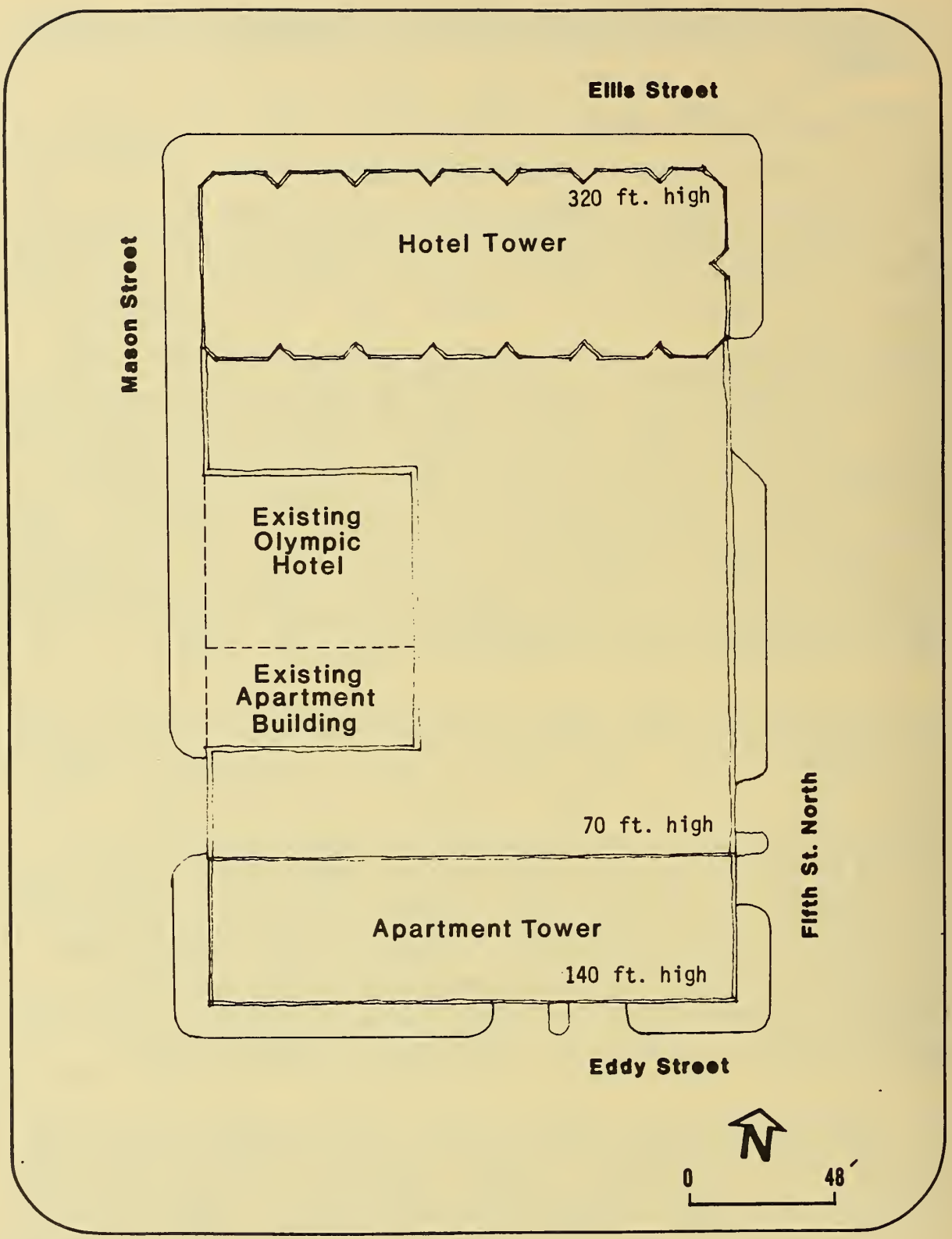


FIGURE 36 : TWO-TOWER ALTERNATIVE - SITE PLAN

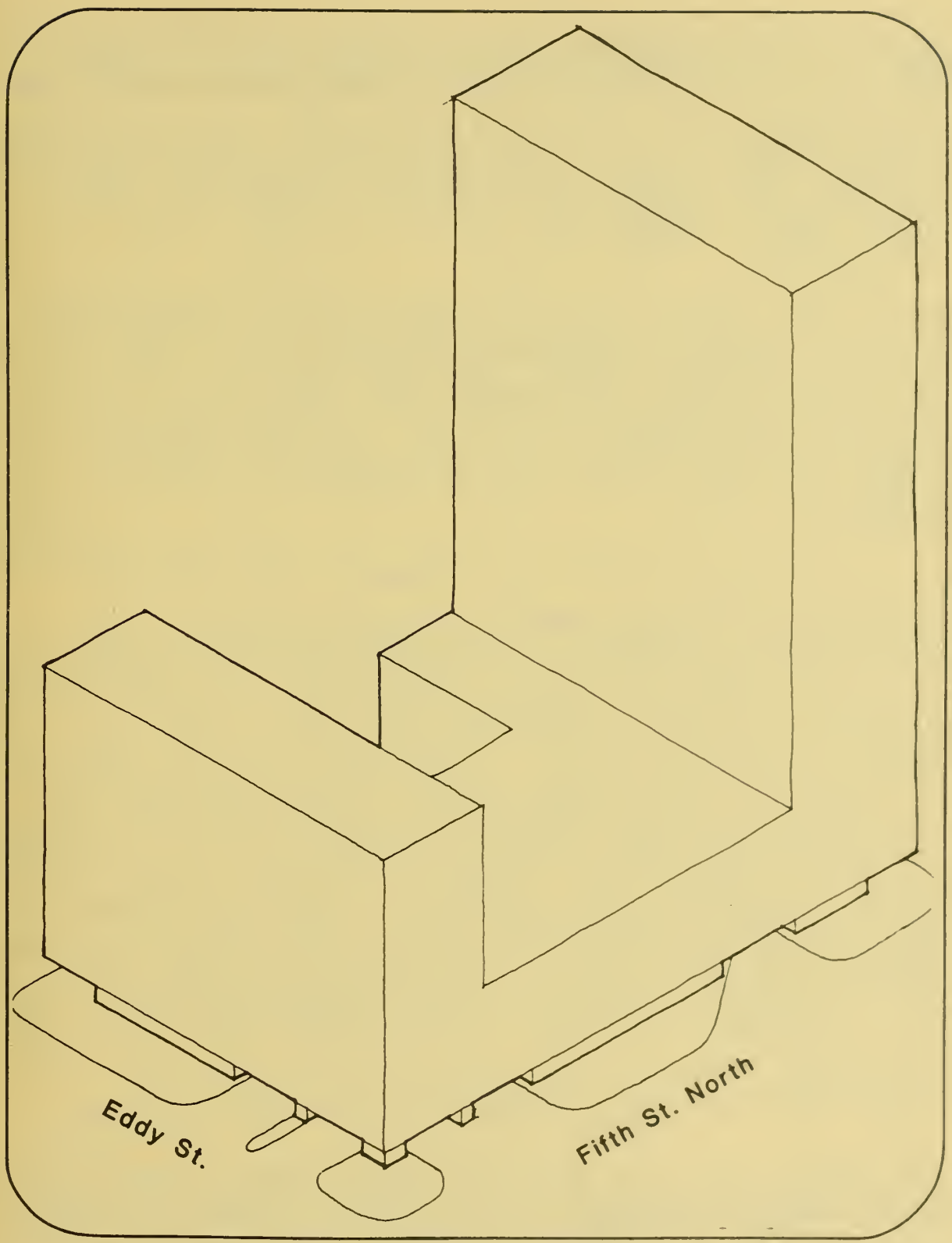


FIGURE 37 : TWO-TOWER ALTERNATIVE - ISOMETRIC VIEW

shadows on this area during mid-morning to mid-afternoon hours during fall, winter and spring. The two-tower alternative would generate higher wind speed ratios at street level than either the proposed project or the reduced-height alternative, because the east-west oriented 320-ft. high Ellis St. tower would intercept a greater volume of wind then either the L-shaped project tower or the reduced height alternative./1/

With the housing alternative, water use would be about 2/3 of the project's water use, or 116,000 gpd. Sewage generation would be about 110,000 gpd. The Police and Fire Departments would probably receive fewer calls for service, because of the reduced population on the site. Solid waste generation would be about 1.3 tons per day, about 65% of that generated by the project as proposed.

Total project employment in this alternative would be about 370 persons as compared to about 615 persons employed in the proposed project; mainly bellpersons, and maintenance and housekeeping positions would be reduced. A combined apartment housing and hotel project would have a fair market value of about $42.1 million, with an assessed valuation of $10.5 million. In comparison to the proposed project, this design would have a fair market value of about 20% less and would generate between $335,000 and $422,000 in net property tax revenues to the City and County, about 20% less than the proposed project. This alternative would represent a net addition to the San Francisco property tax base of $10 million, about 20% less than the net assessed valuation of the proposed hotel. The 620 rooms provided in this design would return about 40% less in hotel tax revenue. Hotel-generated sales tax revenues would decrease in proportion to the decrease in the number of rooms and, therefore, hotel guests. There would be 380 fewer hotel rooms available to meet projected increased demand for hotel rooms in San Francisco.

Hotel employees in this alternative would generate demand for about 75 housing units as compared to the demand for about 140 units generated by the project as proposed. This design would provide 40 upper-income apartment units to partially meet the need for housing in San Francisco. These units would represent about 3% of the multiple-family housing units for which building

permits were issued in San Francisco in 1979. Residents of the 40 apartments would generate an unknown amount in sales tax revenues to the City and County.

Assuming that apartment residents would choose the hotel location because of its proximity to Union Square, the Downtown business district and related activities therein, private vehicle trips would be held to a minimum. At a daily vehicular trip-generation rate of about 2.4 trip ends at the periphery of the site per hotel guest room and about four trip ends per day per apartment, vehicular travel generated by the alternative would be about 750 trips fewer than for the proposed project. The travel would thus be about 70% that of the proposed project. Levels of service on surrounding streets would be the same as with the project. Some of the residents would use transit to commute to and from work, but the alternative would have fewer employees. Therefore, it is expected that the alternative would generate approximately 70% of the peak-hour Muni trips produced by the project as proposed.

The alternative providing both hotel rooms and apartment units was rejected by the project sponsor for several reasons. A facility containing both apartments and guest rooms would be operationally difficult to administer. The apartment area would require security, elevators, plumbing and utilities systems separate from the hotel. The character and rental price of the apartments would not be similar to the character and prices of existing housing elsewhere in the Tenderloin. The project sponsor does not believe that there would be a market for such apartment units in the Tenderloin. This alternative would generate a smaller qualifying private investment than would the proposed project and would, therefore, not provide the basis for as large a UDAG residential-hotel rehabilitation program for the Tenderloin.

D. ALTERNATIVE WITH FOUR-TIERED HOTEL GUEST-ROOM TOWER

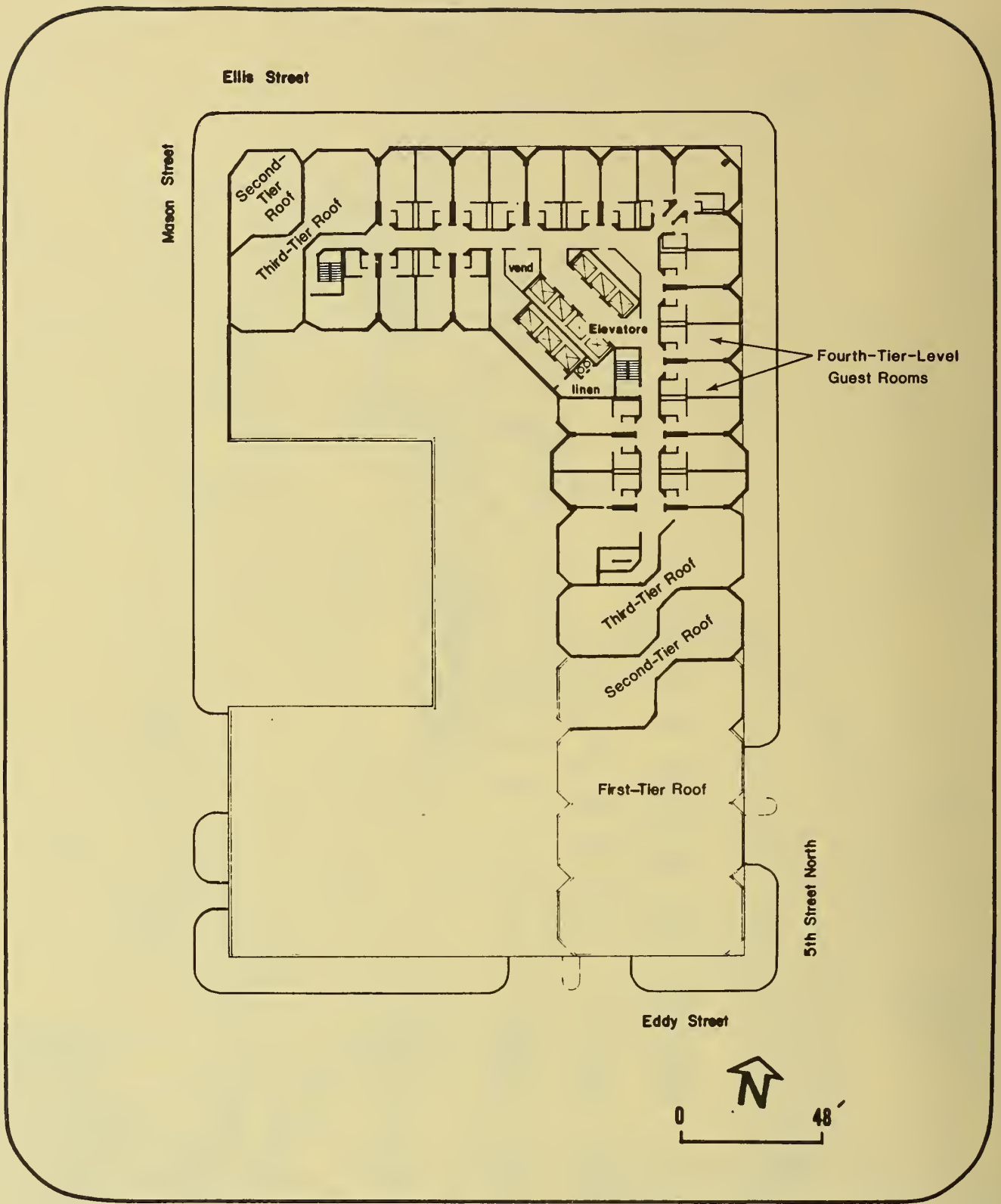
An alternative to the proposed project design has been developed in response to comments made by City staff during the preparation of the Draft Environmental Impact Report. The base building and tower would have the same orientation as they would in proposed project, with the vehicular entrance near Hallidie Plaza and the tower fronting on Ellis St. and Fifth St. North.

The base building would contain lobby, restaurant, ballroom, retail and public function space, as it would in the proposed project. The tower would contain hotel guest rooms. The alternative design would have three setbacks in the tower, rather than the two proposed by the project (see Figure 38). The visual effect would be a series of more gradual transitions from one element to another, with landscaped roofs on the fourth, tenth, twentieth and twenty-sixth tiers. The tower would also be stepped back at Mason and Ellis Sts. at the third and fourth tiers (see Figure 39). This alternative design would reduce the starkness and apparent mass of the proposed design by breaking up the components into an aggregate of parts. It would comply with Section 271,2(c) of the City Planning Code by providing "major variations in the planes of wall surfaces", and by providing "signficant differences in the heights of various portions of the building... that divide the mass into distinct elements." The street-level fenestration would be the same as that of the proposed project, leaving the southwestern frontages on Eddy and Mason Sts. as walls with retail display windows or bus and truck loading areas. Shadow and wind effects would be similar to those of the proposed project.

The two lower levels would contain approximately the amount of parking area as would those of the proposed project. The four-story base building would also contain approximately the same floor area. Tower Floors 5 through 10, each containing about 52 guest rooms, would form the first tier. Second-tier Floors 11 through 20 would each contain about 39 guest rooms. Floors 21 through 26 in the third tier would each contain about 33 rooms. Floors 27 through 32 in the fourth tier would each contain about 25 rooms. The 1,050-room hotel would have about 50 more guest rooms than would the proposed project and a gross floor area about 49,000 sq.ft. greater.

The alternative design would comply with the length limitations of the City Planning Code, but the second tier of the tower would exceed the diagonal measurement of 200 ft. by about 30 ft. The gross floor area would exceed the 10:1 Basic Floor Area Ratio of the site plus allowable bonuses by about 90,000 sq.ft. As a PUD, the proposed project could be granted a modification of certain provisions of the City Planning Code under Section 304(a) of the Code.

FIGURE 38: ARTIST'S RENDERING OF THE FOUR-TIERED TOWER ALTERNATIVE VIEWED FROM HALLIDIE PLAZA



SOURCE: DMJM/CD, Architects

FIGURE 39: FOUR-TIERED TOWER ALTERNATIVE - HIGH-RISE GUEST-ROOM FLOOR

About 635 jobs, or 20 more than the proposed project, would be provided in this alternative design. The increase would primarily be in the categories of bellpersons, laundry and housekeeping positions. This design would have an estimated total fair market value of $66.7 million, and an estimated assessed value of about $16.7 million, generating a net addition to the San Francisco property tax base of about $16.2 million. The market value of this alternative would be about 27% more than the project at $52.4 million. This design would generate between $546,000 and $684,000 in net property tax revenues to the City and County, as compared to between $423,000 and $531,000 generated by the proposed project design. This alternative would have 50 more rooms and would generate about 5% more franchise and sales tax revenues. Demands for community services and energy use would increase approximately 5%. Construction impacts and contruction employment would be similar to those of the project as proposed.

The entrances and exits to the hotel for both vehicles and pedestrians would have the same design as for the proposed project. The circulation effects of this alternative would, therefore, be approximately the same as those of the proposed 1000-room project. Daily project-generated pedestrian trips and trips on Muni, in autos, taxis and charter buses would be at most 5% greater than would be generated by the proposed project. There would be about 10 additional p.m. peak-hour vehicle trips. No changes in Levels of Service at any of the surrounding intersections would result.

This alternative is currently under consideration by the project sponsors.

NOTE - Alternatives

/1/ D. Ballanti, Consulting Meteorologist, telephone communication, 1 May 1980.

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X. APPENDICES

APPENDIX A: APPLICABLE CRITERIA FOR PLANNED UNIT DEVELOPMENTS/1/

The City Planning Commission, under Section 304 of the City Planning Code, may authorize Planned Unit Developments as conditional uses. "After review of any proposed development, the City Planning Commission may authorize such development as submitted or may modify, alter, adjust or amend the plan before authorization, and in authorizing it may prescribe other conditions as provided in Section 303(d). The development as authorized shall be subject to all conditions so imposed and shall be excepted from other provisions of this Code only to the extent specified in the authorization." The San Francisco City Planning Code sets forth the criteria and limitations a project proposed as a Planned Unit Development must meet in addition to the criteria applicable to conditional uses (Section 303c). The proposed development must:

"1. Affirmatively promote applicable objectives and policies of the Master Plan;

"3. Provide open space usable by the occupants and, where appropriate, by the general public, at least equal to the open spaces required by this Code;

"6. Under no circumstances be excepted from any height limit established by Article 2.5 of this Code, unless such exception is explicitly authorized by the terms of this Code. In the absence of such an explicit authorization, exceptions from the provisions of this Code with respect to height shall be confined to minor deviations from the provisions for measurement of height in Sections 260 and 261 of this Code, and no such deviation shall depart from the purposes or intent of those sections."

In addition, Planned Unit Developments must be "on sites of considerable size (1/2 acre or more), developed as integrated units and designed to produce an environment of stable and desirable character which will benefit the occupants, the neighborhood and the city as a whole. In cases of outstanding over-all design, complementary to the design and values of the surrounding area, such a project may merit a well reasoned modification of certain of the provisions contained elsewhere in this Code. The tract or parcel of land involved must be . . . in one ownership . . . ."

NOTE - Appendix A

/1/ City Planning Code, Article 3, Section 304.

APPENDIX B: ARCHITECTURAL EVALUATION SYSTEMS

The architectural ratings discussed in the text of this report (see Section III. B., Architectural Resources; and Figure 17 p.36) represent the results of two separate architectural surveys.

SAN FRANCISCO DEPARTMENT OF CITY PLANNING SURVEY

Between 1974 and 1976, the San Francisco Department of City Planning conducted a citywide inventory of architecturally significant buildings. An advisory review committee of architects and architectural historians assisted in the final determination of ratings for the 10,000 buildings which were entered in an unpublished 60-volume record of the inventory. The rated buildings have been represented on a set of color-coded maps which identify the location and relative significance of each building surveyed. The maps are available for public inspection at the Department of City Planning.

The inventory assessed the architectural significance of the surveyed structures from the standpoint of overall design and particular design features. Both contemporary and older buildings were included, but historical associations were not considered. Each building was numerically rated according to its overall architectural significance. The ratings ranged from a low of "0" to a high of "5". Factors considered included architectural significance, urban design context, and overall environmental significance. The architectural survey resulted in a listing of the best 10% of San Francisco's buildings. In the estimation of the inventory participants, buildings rated "3" or better represent approximately the best 2% of the City's architecture.

HERITAGE SURVEY

More recently, the Foundation for San Francisco's Architectural Heritage, through its consultants, Charles Hall Page & Associates, Inc., conducted an architectural and historical survey of all Downtown structures. In 1979, the inventory results were published in the book Splendid Survivors. Criteria considered in rating the buildings included Architectural Significance, Historical/Cultural Significance, Environmental Significance and Negative Alterations. Summary ratings from "A" to "D" were then assigned to each building on the basis of these scores. The summary ratings indicate the following:

A. Highest Importance. Individually, these buildings are the most important buildings in downtown San Francisco. All "A" group buildings are eligible for the National Register and are of highest priority for City Landmark status.

B. Major Importance. This group includes buildings whi h are of individual importance by virtue of architectural, historical, and environmental criteria. "B" group buildings are eligible for the National Register and are of secondary priority for City Landmark status.

C. Contextual Importance. Buildings which are distinguished by their scale, materials, compositional treatment, cornice and other features are included in this group. Many "C" group buildings may be eligible for the National Register as part of historic districts.

D. Minor or No Importance. Buildings in this group are insignificant examples of architecture. Most "D" group buildings are "sites of opportunity" for development.

STRUCTURES OF MERIT

Recognition of structures of merit is provided for under Section 1011 of Article 10 of the City Planning Code, which authorizes the City Planning Commission to approve a list of structures that have historical and architectural merit, but have not been designated as landmarks. The purpose of such a list is to encourage preservation of structures of architectural and historic merit without subjecting them to the controls imposed on designated landmarks.

In May 1978, the Planning Commission directed the Landmarks Preservation Advisory Board to prepare a list of potential Structures of Merit for the Commission to consider The Landmarks Board presented a list in September of 1979 of the best 300 buildings in the Downtown area, including all buildings rated A or B in the Heritage survey, Splendid Survivors, and any other buildings given high ratings in the Department of City Planning 1976 Architectural Inventory. The Planning Commission held two public hearings, in September 1979 and January 1980, to consider designation of Structures of Merit, and adopted the Listing of Architecturally and/or Historically Important Buildings on 29 May 1980 (Resolution 8600). Structures of Merit are indicated by double asterisks in Figure 17, p. 36. Among those in the vicinity of the project are the Flood Building at 870 Market St., the Bank of America at One Powell Street, the Continental Hotel at 119 Ellis St., the Lincoln Building at 879 Market St., the Hale Bros. (later J.C. Penney's) Building at Fifth and Market Sts., and buildings at 111, 135 and 142 Powell Sts.

APPENDIX C: Microclimate Study for the Proposed Hotel Ramada San Francisco

I. INTRODUCTION

Architects, engineers, and city planners designing urban structures are limited by the lack of information on wind effects due to structures, such as pedestrian discomfort and wind-caused mechanical problems with doors, windows, and ventilating systems. Once a structure is built, remedial measures (if they exist at all) usually are expensive.

It is virtually impossible to anticipate, by analysis or intuition, the winds that will be caused by a structure, as they are determined by complex interactions of forces. Fortunately it is possible to predict the wind patterns and pressures around structures by testing scale models in a wind tunnel which can simulate natural winds near the ground. This allows the designer to foresee possible environmental and mechanical problems and alleviate them before the building is erected.

Data from wind tunnel tests can be combined with climatological data in analysis of the effect of a proposed structure on pedestrians in terms of human comfort. The frequency distribution of wind strengths at pedestrian level, combined with temperature data and shadow patterns of the proposed structure and its surroundings, can be used to forecast comfort at pedestrian levels.

II. SUMMARY

Wind tunnel tests of scale models of the project site as it exists and with the proposed building and its alternative were conducted in a boundary layer wind tunnel. Measurements were made of windspeed ratio and direction for the two most prevalent wind directions in San Francisco, northwest and west. The proposed Hilton Tower No. 2 and Holiday Inn were assumed to be in place. For northwest winds, the project site was found to have low to moderate windspeed ratios. The entire area was sheltered by the Hilton complex and proposed Holiday Inn that are upwind of the site. A similar range of windspeed ratios was found for west winds. Highest windspeed ratios were found at the northwest corner of the Eddy Street/5th Street North intersection.

For northwest winds, the proposed project would decrease windspeed ratios by 5-10% on the east side of the Ellis/Mason intersection. Windspeed ratio increases would occur at the Ellis/5th Street North intersection, with the highest windspeed ratio reaching the moderate range. Windspeed ratio increases would also occur along 5th Street North, with windspeed ratios reaching the moderate range. Windspeed ratios in Hallidie Plaza would be unchanged.

For west winds, the project would decrease windspeed ratios on the east side of the Ellis/Mason intersection by 10-25%. Windspeed ratio reductions would occur along 5th Street North. Increases would occur along Eddy Street, with the highest windspeed ratio reaching the moderately high range. Windspeed ratios within Hallidie Plaza would either decrease or remain unchanged.

The project alternative would avoid most of the wind increases associated with the proposed project. This alternative would not extend above the Hilton Hotel upwind and would intercept a smaller volume of wind. The setback of the highrise portion of the project from Eddy Street results in little effect along Eddy Street.

Suggested mitigation measures to reduce winds include provision of street trees, kiosks, etc., along Ellis and Eddy Streets. Some landscaping to provide shelter is suggested for the outdoor areas on the lowrise rooftop. More extensive wind protection such as fences, screens or enclosures would be necessary to make the upper rooftop outdoor areas usable.

III. BUILDING AND SITE DESCRIPTION

The proposed Ramada San Francisco would be located on the block bounded by Ellis Street, 5th Street North, Eddy Street and Mason Street in downtown San Francisco. The site is currently occupied by one-story and seven-story buildings and a parking lot.

The proposed building would have a maximum height of 320 feet. An L-shaped highrise structure would sit upon a 55-foot base. The highrise section fronting 5th Street North would step-up from Eddy Street to Ellis Street, with rooftop areas at heights of 112 and 205 feet (see Figure 2, page 10). A ground-level auto entrance/exit would be located at the corner of Eddy and 5th Street North. (All heights given are measured from a reference point on Mason Street near Ellis Street).
Two alternative building designs were considered. The alternative tested in the wind tunnel included a 16-story, L-shaped highrise section (see Figure 3, page 11). This alternative was selected for testing because it appeared to have less potential for wind problems than the second alternative developed by the architect, a 32-story tower on the north side of the site and a 8-story tower on the south side.

Two proposals, the Hilton Tower II and the Holiday Inn, are in the vicinity of the site. The Hilton Tower II is a highrise hotel tower proposed for the southeast corner of the O'Farrell/Taylor intersection northwest of the project site. The proposed Holiday Inn would occupy the entire block directly across Ellis Street from the project site. Both these proposed projects have been previously tested in the wind tunnel. Models of these proposed buildings were included in the test of existing conditions and tests of the proposed project and the alternative.

IV. MODEL AND WIND TUNNEL FACILITIES

Model

Scale models of the proposed buildings and the structures surrounding the area for a distance of several blocks were constructed of polystyrene and urethane foams at a scale of 1 inch equals 30 feet. Building configurations and heights were obtained from the Sanborn maps at the San Francisco Department of City Planning and from site visits.

Wind Tunnel Facilities

The Environmental Impact Planning Corporation boundary layer wind tunnel was designed specifically for testing architectural models. The working section is 7 feet wide, 43 feet long, and 5 feet high. Wind velocities in the tunnel can be varied from 3.5 mph to 13 mph. The flow characteristics around sharp-edged objects, such as architectural models, are constant over the entire speed range. Low speeds are used for tracer smoke, high speeds for windspeed measurements.

Simulation of the characteristics of the natural wind is facilitated by an arrangement of turbulence generators and roughness upwind of the test section. These allow adjustments in wind characteristics to provide for different scale models and varying terrain upwind of the project site.

Measurements of windspeed around the model are made with a hotwire anemometer, a device that relates the cooling effect of the wind on a heated wire to the actual windspeed. The flow above the city is measured by a Pitot tube connected to a micromanometer. The Pitot tube and micromanometer measure directly the pressure difference between moving and still air. This pressure difference is then related to the actual windspeed. Flow visualization is achieved by use of floodlit smoke.

V. TESTING METHODOLOGY

Simulation of Flow

The most important factors in ensuring similarity between flow around a model in a wind tunnel and flow around the actual building are the structure of the approach flow and the geometric similarity between the model and the prototype. A theoretical discussion of the exact criteria for similarity is not included in this paper, but may be found elsewhere (Cermak, 1966, or Cermak and Arya, 1970)

The variation of windspeed with height (wind profile) was adjusted for the scale of the model and the type of terrain upwind of the the site. The profiles used were those generally accepted as adequately describing the flow over that type of terrain (Lloyd, 1967).

Testing Procedure

The windflow characteristics of the site in its current state were investigated to ascertain the present wind environment. Windspeeds and wind directions at specified points throughout the site were measured and recorded. Wind direction was measured by releasing smoke at each point and recording the direction in which the smoke traveled. Windspeed measurements were made at the same points, at a scale height of 5 feet above the ground. A hotwire anemometer probe is required to make these measurements within a fraction of an inch of the model surfaces. The probe is repeatedly calibrated against the absolute reading of a Pitot tube and micromanometer. Velocity readings close to the model are generally accurate to within 10% of the true velocity.

Measurements for the building are made by keeping the probe in place while replacing the existing buildings with each proposal under consideration.

Before and after each test run, a calibration measurement was made above the model. The purpose of these measurements was to relate the wind tunnel measurements to actual wind records from U.S. Weather Service wind instrumentation located on the Federal Building at 50 Fulton Street.

VI. TEST RESULTS AND DISCUSSION

Tests of windspeed and wind direction were conducted for 2 wind directions.

Measured windspeeds are expressed as percentages of the calibration windspeed, which corresponds to the actual windspeed at the San Francisco Weather Station. Thus, a plotted value of 52 means that the measured windspeed is expected to be 52% of the windspeed recorded by the Weather Service when winds are from that particular direction.

The plotted values can be interpreted in terms of general "windiness" using the scale below. This scale is subjective and is based on information gathered from similar studies in San Francisco.

Velocity	Decimal Fraction Calibration Windspeed
Low	0-0.19
Moderately low	0.20-0.29
Moderate	0.30-0.49
Moderately high	0.50-0.69
High	0.70-1.00
Very high	> 1.00

> greater than

The plotted values are not actual windspeeds, but ratios. Thus, a point having a "very high" windspeed ratio would still experience light winds on a near-calm day. Likewise, a point found to have "low" winds could experience significant winds on a windy day.

Wind direction is indicated by an arrow pointing in the direction of flow. Where wind direction fluctuated, two arrows representing the principal flow directions were plotted.

Areas of fluctuating winds are normally turbulent, as are areas of spiraling motion; the latter are denoted by curved arrows.

Northwest Wind

Northwest winds occur 12 to 39% of the time in San Francisco, depending on the season. (In meteorology, a northwest wind blows from the northwest). Northwesterly and westerly winds are the most frequent and the strongest winds at all seasons in San Francisco. Northwest winds exceed 13 miles per hour 35% of the time and 25 miles per hour 3% of the time in summer. (These windspeed categories are used because wind frequency data are broken down into categories of 4-13 mph, etc.) Wind frequencies and speeds are lower in spring, fall, and winter.

Figure 1 shows measured windspeed ratios and directions for the existing site under northwest winds. Windspeed ratios along Ellis Street are generally low to moderately low. Moderate windspeed ratios are found at the east side of the Ellis/Mason intersection. The remainder of the area studied was found to have low windspeed ratios, reflecting the shelter provided by the Hilton Complex located on the northwest corner of the Ellis/Mason intersection and the Holiday Inn located directly across Ellis Street from the project site.

Test results for the proposed project are shown in Figure 2. A reduction in windspeed ratio of 5-10% would occur at the east side of the Ellis/Mason intersection. The existing low windspeed ratios at the Ellis/Fifth Street North intersection would increase to the moderately low to moderate range. Windspeed ratios along Mason Street would be unaffected. Windspeed ratios along 5th Street North would increase from low to moderately low on the west side of the street, and increase from low to moderate along the east side of the street. Windspeed ratios along Eddy Street and within Hallidie Plaza would remain low. Low windspeed ratios were found within the auto entrance/exit. The outdoor rooftop areas would have moderately low to moderate windspeed ratios.

The alternative design would have less impact on the wind than the proposed project because the height of the tower

would not extend above the upwind Hilton Hotel. The pattern of windspeed ratios (Figure 3) essentially would be identical to that of the existing site. The automobile entrance/exit would have low windspeed ratios. Moderate low windspeed ratios were found at rooftop outdoor areas.

West Wind

West winds occur between 15 and 40% of the time, depending on the season. They exceed 13 miles per hour 29% of the time and 25 miles per hour 7% of the time in summer. Wind strengths and frequencies are somewhat lower in spring, fall and winter.

Existing site windspeed ratios and wind direction under west winds are shown in Figure 4. Windspeed ratios along Ellis Street range from low to moderate. Windspeed ratios along both Mason Street and 5th Street North adjacent the project site are moderately low to moderate. Low to moderate windspeed ratios occur along Eddy Street, with the highest windspeed ratio occurring at the northwest corner of the Eddy/5th Street North intersection.

The proposed project (Figure 5) would only affect Ellis Street windspeed ratios near the Ellis/Mason intersection, where reductions of 10-25% would occur at the east side of the intersection. Mason Street winds would be unaffected. Reduction in windspeed ratios would occur on both sides of 5th Street North adjacent the project site. At the Eddy/Mason intersection, existing low windspeed ratios would increase to moderately low. Along Eddy Street adjacent the site, moderately low windspeed ratios would increase to moderate. The greatest impact would occur at the Eddy/5th Street North intersection, where windspeed ratio would increase to the moderate to moderately high ranges. Hallidie Plaza winds would be lowered at the west end and unaffected at the east end. The south side of the automobile entrance/exit would have moderately high windspeed ratios. The lower, outside rooftop area would have moderate windspeed ratios; the upper rooftop areas would have very high winds. The alternative would avoid the windspeed ratio increases along Ellis and Eddy Streets caused by the proposed project. Windspeed ratio decreases of 10-20% would occur along Mason and 5th Street North adjacent the site. Windspeed ratios in the auto entrance/exit would range from low to moderate. Rooftop outdoor areas would have moderate windspeed ratios.

VII. MITIGATION MEASURES

There are 2 types of mitigating measures for wind. The first is to make major design changes to reduce winds near the project, such as different building orientations or changes in size or shape.

The second type of mitigation measure involves additions to the project that would provide local shelter for pedestrians. Small structures such as kiosks for newspaper or flower vendors, telephone booths, and shelters at bus stops can serve in this way. Similarly, street trees and other vegetation can function as windbreaks. These types of measures would be appropriate along Ellis and Eddy Streets and in front of the project.

The lowest rooftop outdoor areas would experience low to moderate windspeed ratios, and landscaping would be necessary to ensure comfortable conditions. The higher outdoor rooftop areas at 112 and 205 feet would require extensive wind protection to be usable. Windscreens or enclosures may be necessary, depending on the sensitivity of proposed outdoor uses to wind.

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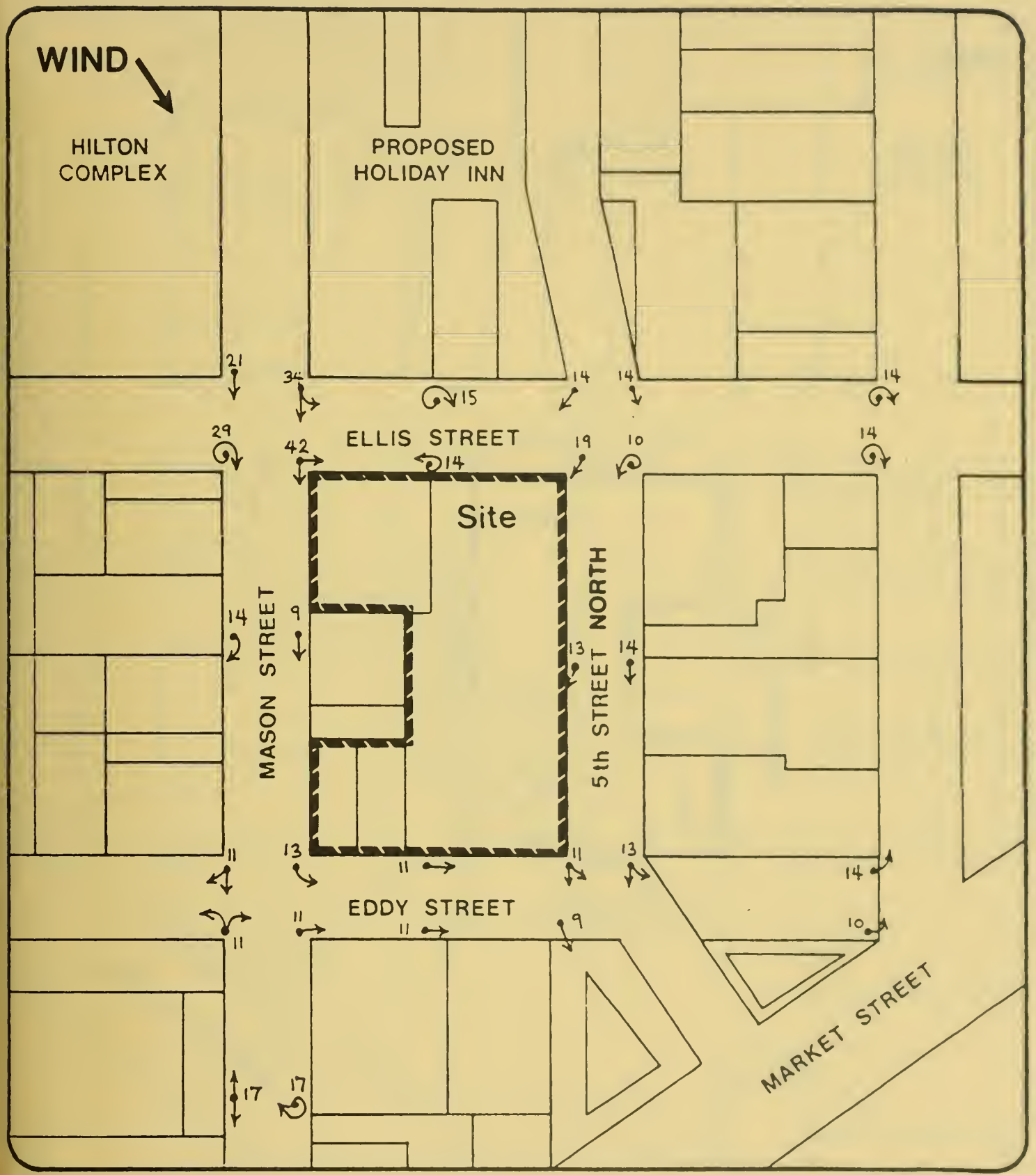


LEGEND

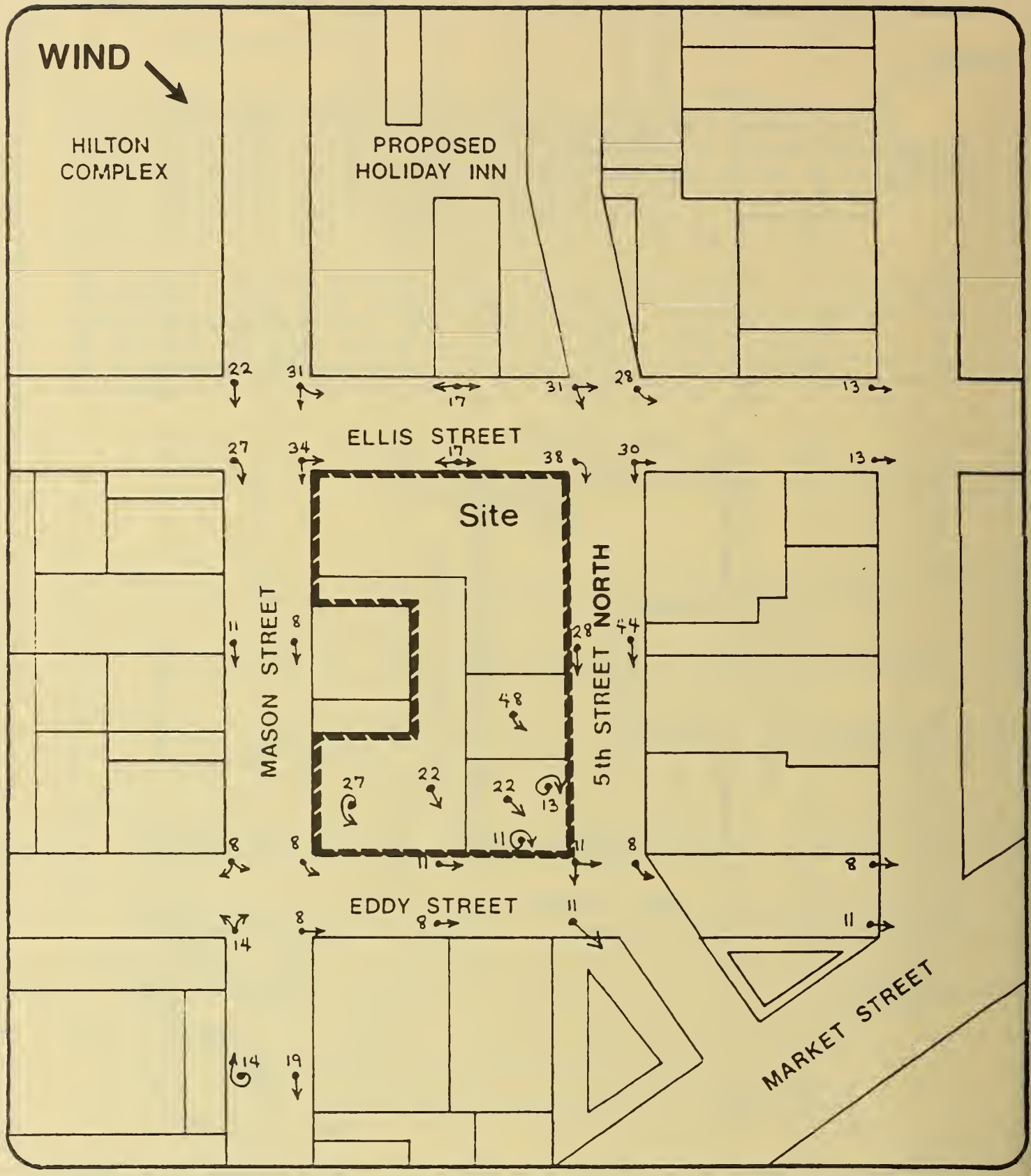
58 - Wind Speed Ratio at Monitoring Location

- Wind Direction at Monitoring Location

N

Existing Site Northwest Winds

Figure No.1



LEGEND

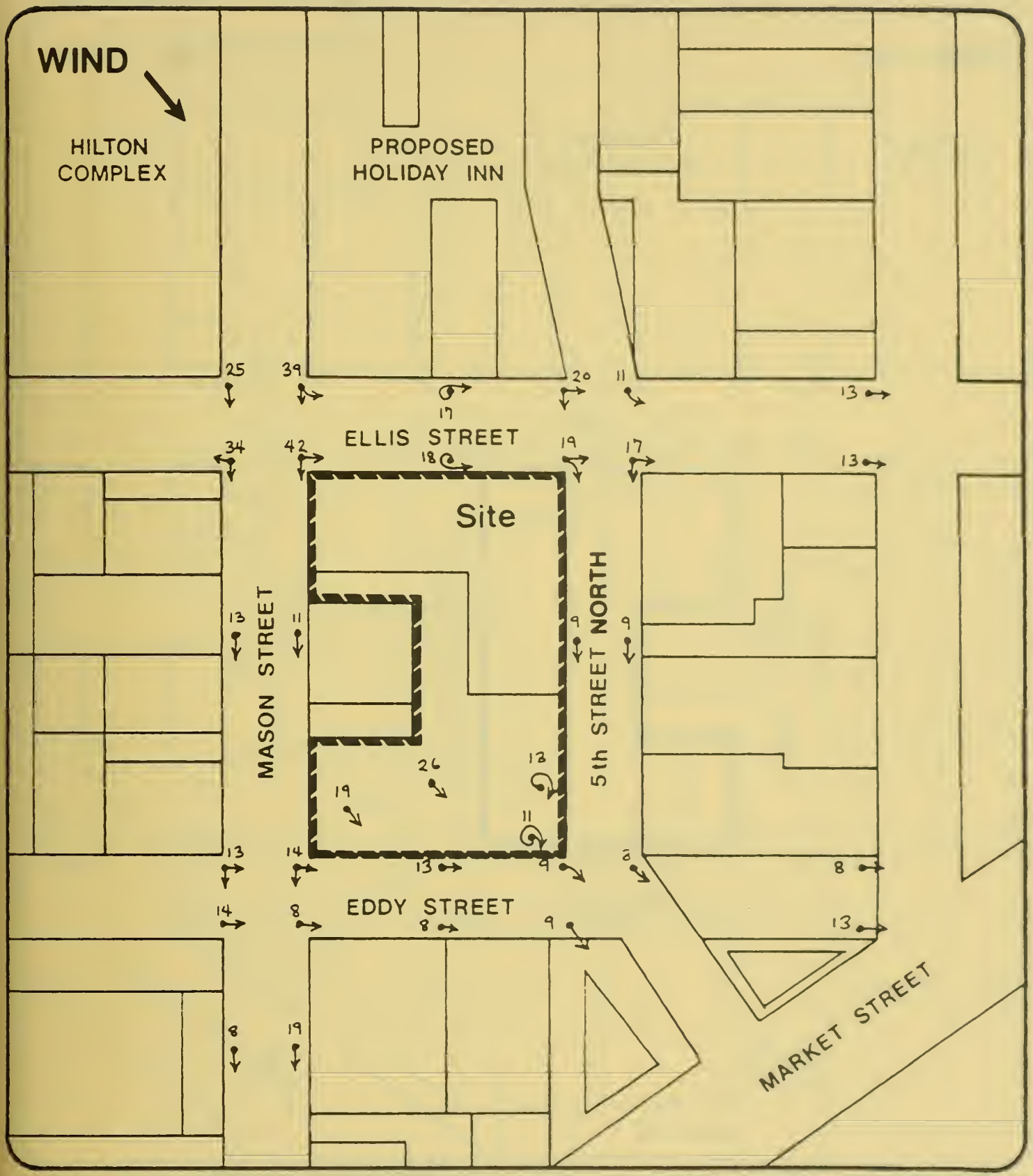
58 - Wind Speed Ratio at Monitoring Location

- Wind Direction at Monitoring Location

N

Proposed Project Northwest Winds

Figure No. 2



LEGEND

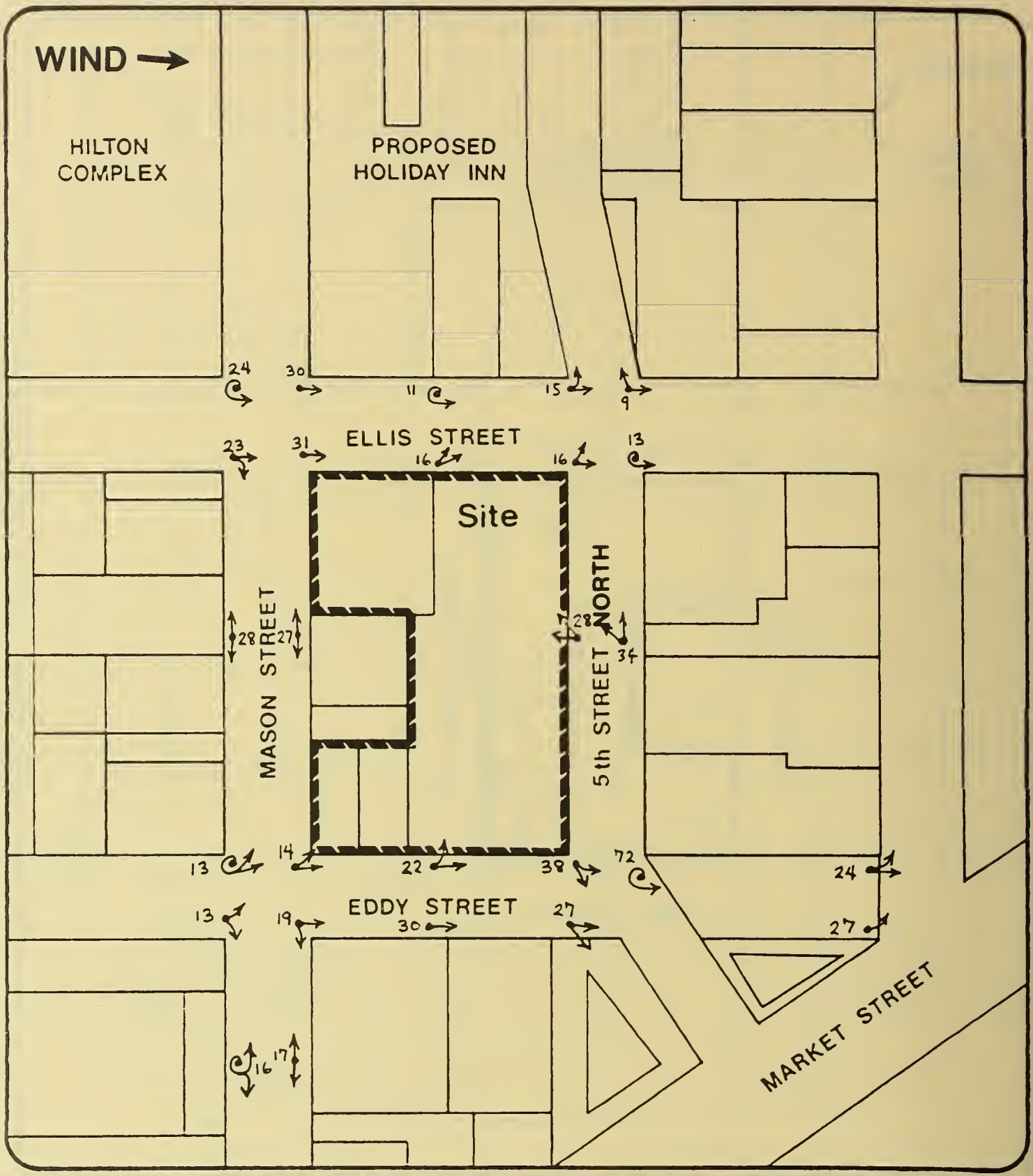
58 - Wind Speed Ratio at Monitoring Location

↻ - Wind Direction at Monitoring Location

N

Alternative Project Northwest Winds

Figure No.3



LEGEND

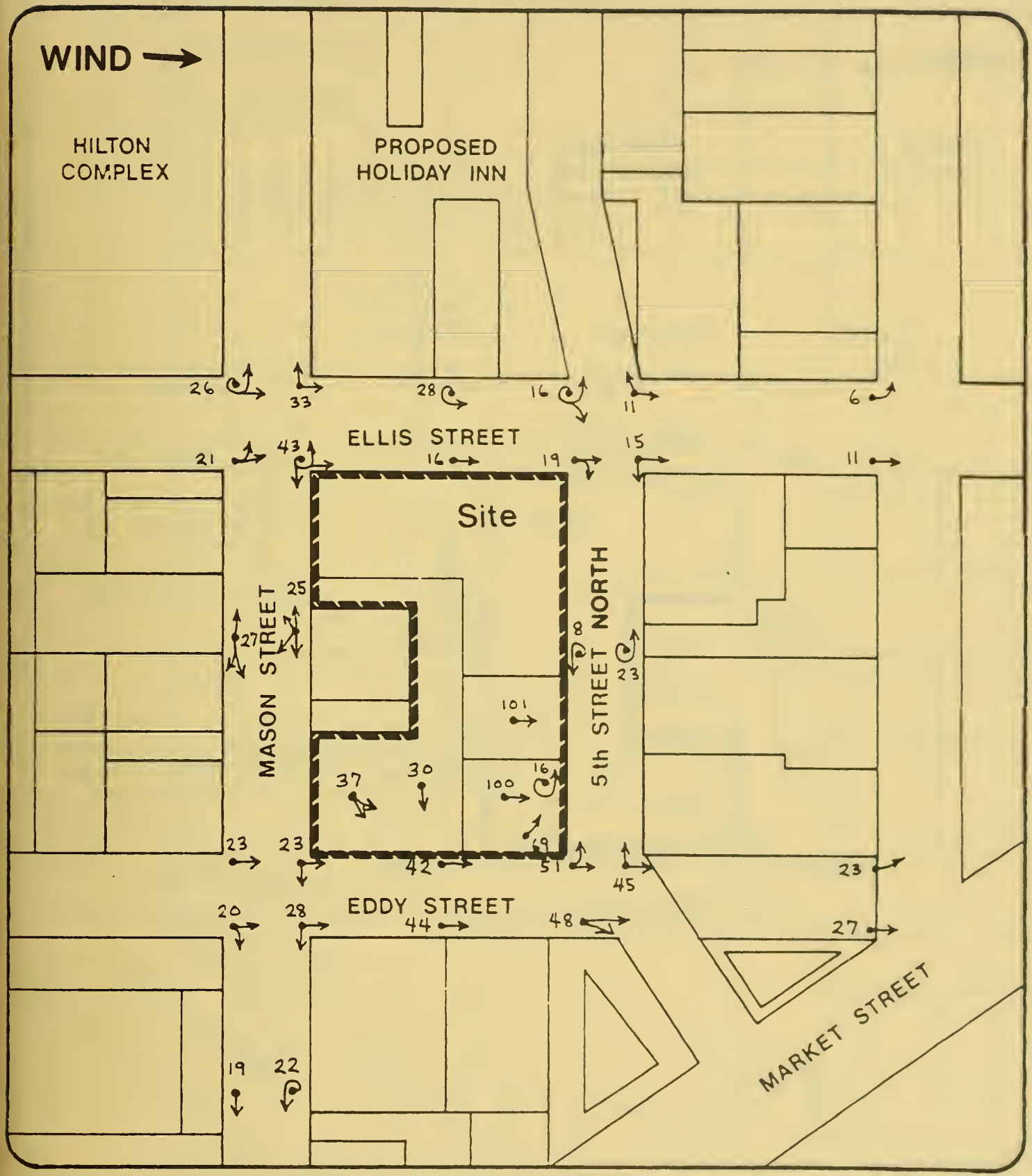
58 - Wind Speed Ratio at Monitoring Location

- Wind Direction at Monitoring Location

N

Existing Site West Winds

Figure No.4



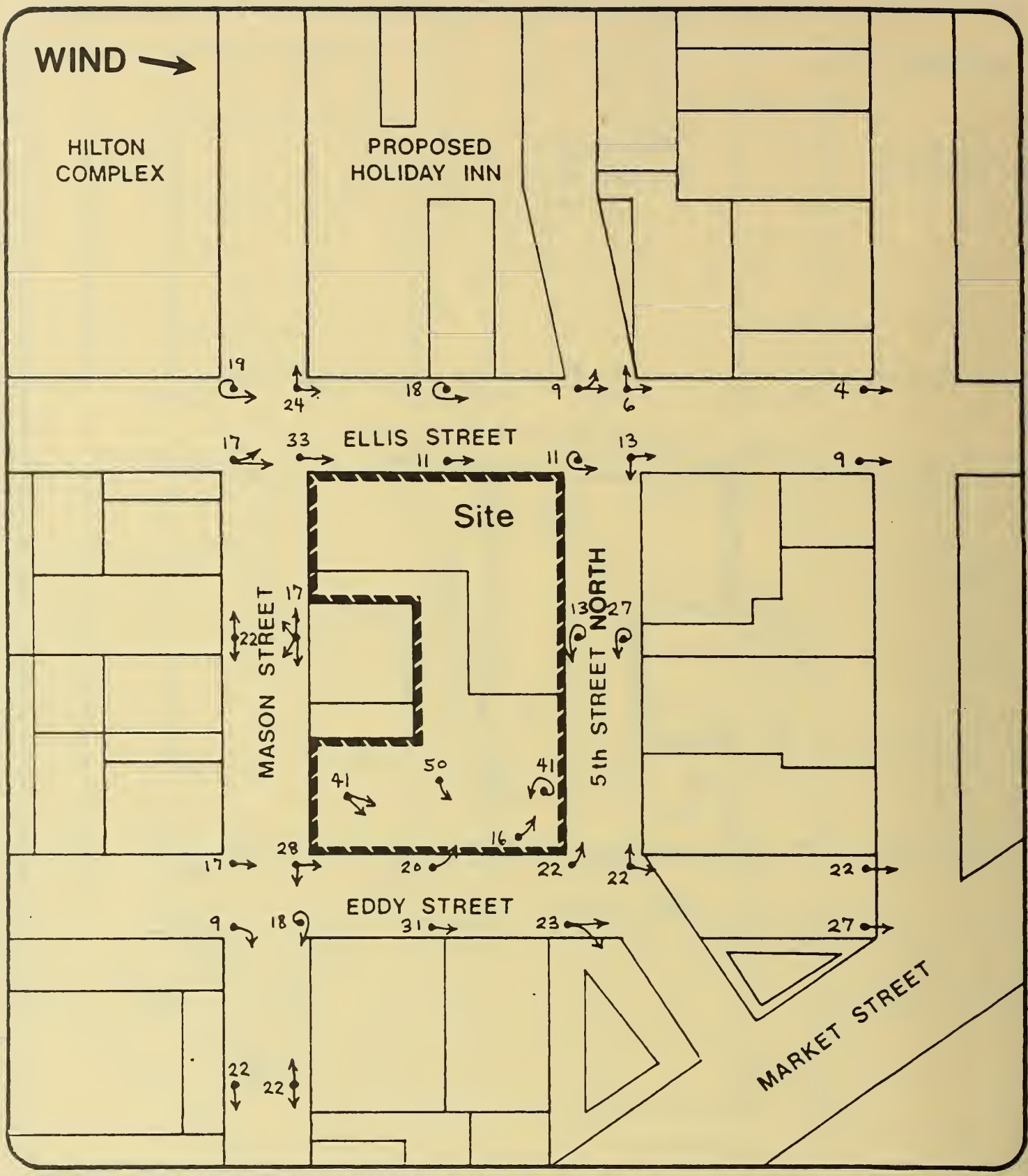
LEGEND

58 - Wind Speed Ratio at Monitoring Location

- Wind Direction at Monitoring Location

Proposed Project West Winds

Figure No. 5



LEGEND

58 - Wind Speed Ratio at Monitoring Location

- Wind Direction at Monitoring Location

N

Alternative Project West Winds

Figure No.6

APPENDIX D: ECONOMIC ASPECTS

TABLE D-1: DISTRIBUTION OF 1979-80 PROPERTY TAXES LEVIED ON BLOCK 330, EXISTING HOTEL RAMADA PROJECT SITE

	1979-80 Total Composite Tax Rate*	Revenues**	Percent
City and County of San Francisco	4.219	21,700	85
San Francisco Unified School District	0.344	1,800	7
San Francisco Community College District	0.058	300	1
Bay Area Air Quality Management District	0.008	---	***
BART	0.341	1,700	7
TOTAL	$4.97	$25,500	100

*Tax rate is levied per $100 of assessed value.
**Revenues are rounded to nearest $100; based on total 1979-80 assessed valuation of $512,700 for seven parcels.
***Revenues less than $100 ($40) and tax rate less than 1% (0.16%) of total tax rate.

SOURCE: Tax Collector, City and County of San Francisco, 1979-80 Important Tax Information.

TABLE E-1: STREET RIGHT-OF-WAY CHARACTERISTICS - HOTEL RAMADA VICINITY*

	Block	Flow	Number of Lanes	Width of Lanes (ft.)	Effective Width of Sidewalks (ft)	
5th St. No.	O'Farrell-Ellis	N	2 park	7	W-7	E-7
			2	15		
	Ellis-Eddy	N	1 park - RT	11	W-6	E-7
			1 park	7		
			2	12		
	Eddy-Market	N-S	1 Bus Loading (W curb)	8-1/2	W-12-1/2	E-14
			1 N Bound	11		
			1 N Bound	10		
			1 S Bound	9		
			1 S Bound	13		
Eddy	5th St. No. - Mason	E	2 park	7	N-9	S-10
			3	10		
	Mason-Taylor	E	2 park	7	N-9	S-9
			3	10		
	Taylor-Jones	E	2 park	7	N-9	S-8
			3	10		
Taylor	Eddy-Ellis	N	2 park	7	W-8	E-7
			1 (ctr)	10		
			2	12		
	Ellis-O'Farrell	N	2 park	7	W-6	E-6
			1 (ctr)	10		
			2	12		
			+ 7-1/2 Loading Bay - E curb			
	O'Farrell-Geary	N	2 park	7	W-6	E-7
			1 (ctr)	10		
			2	12		
Geary	Jones-Taylor	W	1 park-thru	9-1/2	N-10	S-8
			1 park-thru	7		
			1**	10		
			2	9		

TABLE E-1: STREET RIGHT-OF-WAY CHARACTERISTICS - HOTEL RAMADA VICINITY (Continued)

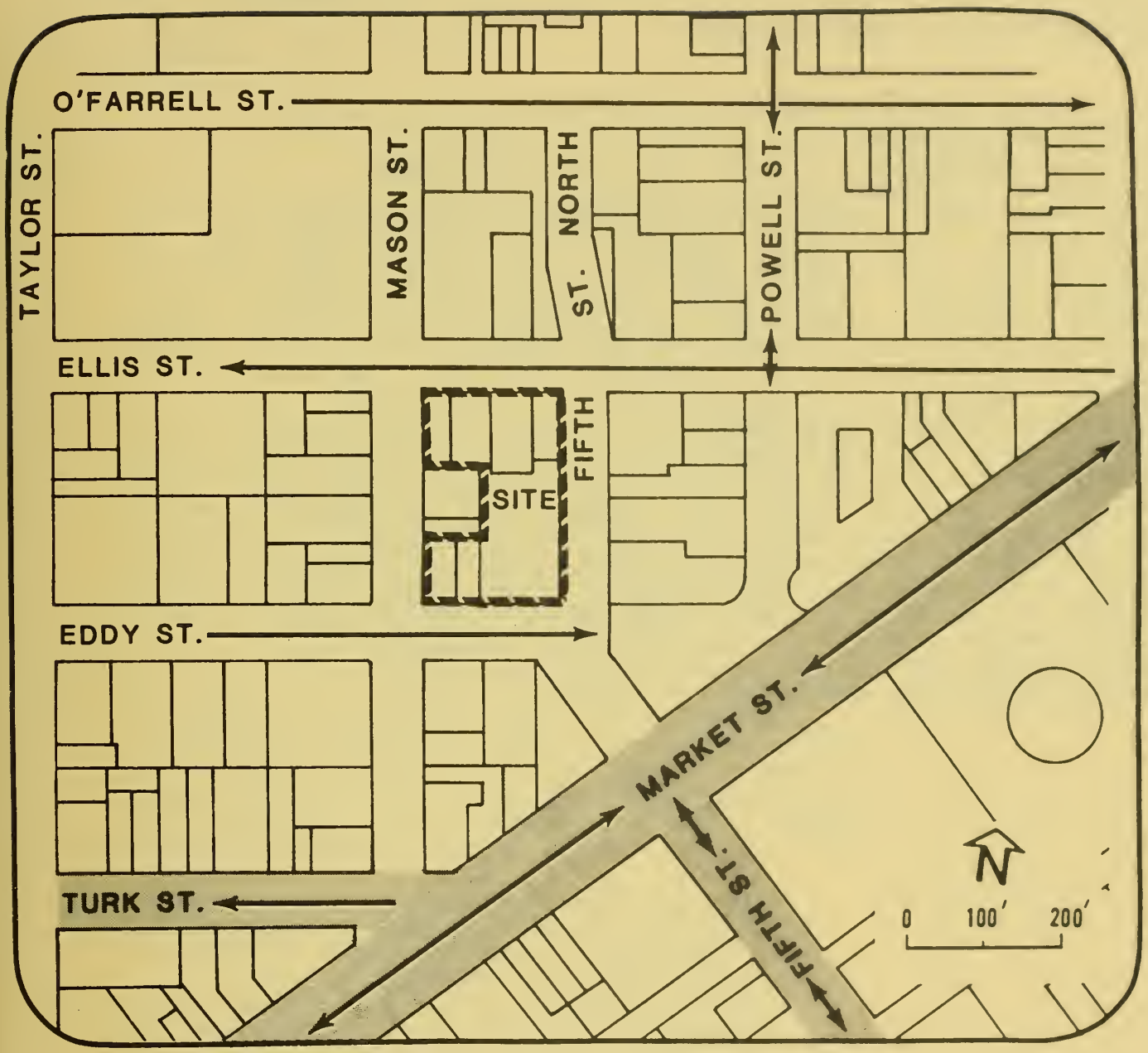
	Block	Flow	Number of Lanes	Width of Lanes (ft.)	Effective Width of Sidewalks (ft)	
Geary	Taylor-Mason	W	1 park-thru	10	N-7	S-6
			1 park-thru	6		
			1**	12		
			2	9		
	Mason-Powell	W	2 park-thru**	10	N-8	S-12
			2	9		
Powell	Geary-O'Farrell	N - S	2 park	7-1/2	W-10	E-9
			2	11		
	O'Farrell-Ellis	N - S	2 park	7-1/2	W-10	E-9
	Ellis-Market	Mall - Cable Cars and Pedestrians				
Ellis	Powell - 5th St.No.	W	2 park	7	N-7	S-8
			3	10		
	5th St. No. - Mason	W	2 park	7	N-9	S-9
			3	10		
	Mason-Taylor	W	2 park	7	N-9	S-6
			3	10		
	Taylor-Jones	W	2 park	7	N-8	S-9
			3	10		
O'Farrell	Jones-Taylor	E	1 park-thru**	10	N-11	S-10
			1 park-thru	10		
			2	9		
	Taylor-Mason	E	1 park-thru**	10	N-10	S-6
			2	9		S-12
			1	10		
			+ 7-1/2 Loading Bay - S curb			
	Mason - 5th St. No.	E	1 park-thru**	10	N-9	-11
			2	9		
			1 (ctr)	10		
	5th St.No. - Powell	E	1 park-thru**	10	N-10	S-11
			2	9		
			1 (ctr)	10		

TABLE E-1: STREET RIGHT-OF-WAY CHARACTERISTICS - HOTEL RAMADA VICINITY (Continued)

	Block	Flow	Number of Lanes	Width of Lanes (ft.)	Effective Width of Sidewalks (ft)	
Mason	Geary-O'Farrell	S	2 park	7	W-8	E-11
			2	12		
	O'Farrell-Ellis	S	2 park	7	W-7	E-12
			2	12		
	Ellis-Eddy	S	2 park	7	W-10	E-9
			2	12		
Jones	Geary-O'Farrell	S	2 park	7	W-10	E-10
			1	12		
			1	10		
			1	9		
Jones	O'Farrell-Ellis	S	2 park	7	W-10	E-9
			1	11		
			1	10		
			1	9		
	Ellis-Eddy	S	2 park	7	W-10	E-9
			1	11		
			2	9-1/2		

*The study area was bounded by Fifth St. North, and Eddy, Jones, Geary, Powell and Ellis Sts.
**Diamond Lane

SOURCE: On-site field measurements made by John J. Forristal, Consulting Traffic Engineer, Sunday, 17 February 1980. Area could be added to the narrow parking lanes; however, width then must be subtracted from the adjacent traveled lane. The measurements are the best estimate of conditions which seemed to prevail where parking stalls were not designated.



LEGEND

MAJOR THROUGHFARE

TRANSIT PREFERENTIAL STREET

FIGURE E-1: MAJOR THROUGHFARES AND TRANSIT PREFERENTIAL STREETS

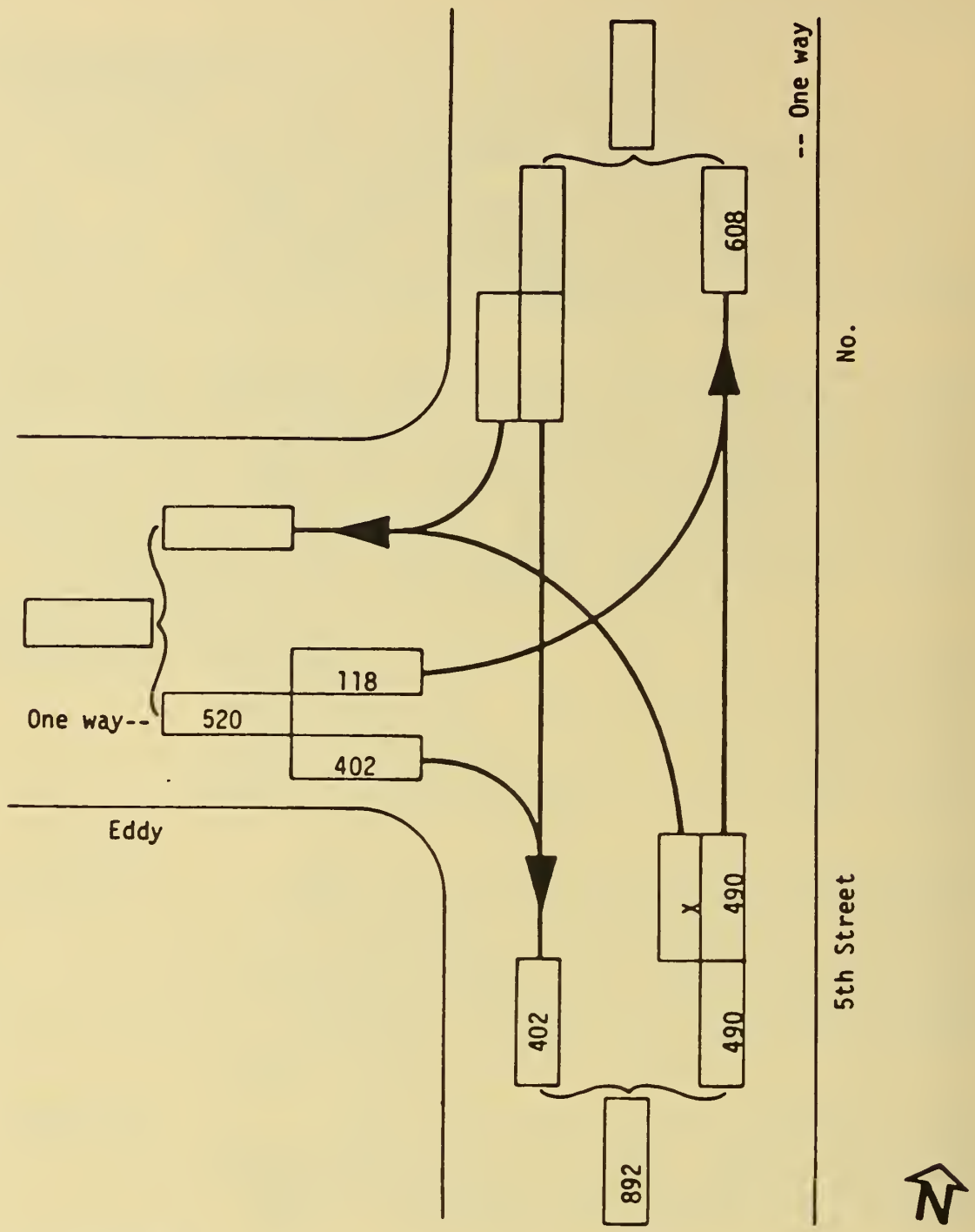
METHODOLOGY USED IN TRAFFIC ANALYSIS

The capacity analysis of each intersection surrounding the project site at which a turning movement count was made utilized the "critical lane" method of analysis. This method of capacity calculation is a summation of maximum conflicting approach lane values that gives the capacity of an intersection in vehicles per hour per lane. (This method is explained in detail in an article entitled "Intersection Capacity Measurement Through Critical Movement Summations: a Planning Tool" by McInerney, Henry B. and Stephen G. Peterson, January 1971, Traffic Engineering). A maximum service volume for Level of Service "E" was assumed as the intersection capacity. The service volume is the maximum number of vehicles that can pass an intersection during a specified time period in which operating conditions are maintained corresponding to the selected and specified level of Service (see Table E-2 for a description of service levels.) For each intersection analyzed, the existing p.m. peak-hour volume occurring between 4:00 and 6:00 p.m. was computed and a volume-to-capacity (v/c) ratio was calculated by dividing the existing volume by the capacity at Level of Service E. Because of the heavier than normal pedestrian traffic in the site vicinity, the conventional value of 1,500 vehicles per hour of green time for Service Level E at the above referenced intersections was reduced to 1200 vehicles per hour for through lanes and 1000 vehicles per hour for turn lanes.

TABLE E-2: TRAFFIC LEVELS OF SERVICE

Level of Service	Description	Volume/Capacity (v/c) Ratio
A	Level of Service A describes a condition of free flow, with low volumes and high speeds. Traffic density is low, with speeds controlled by driver desires, speed limits, and physical roadway conditions. There is little or no restriction in maneuverability due to the presence of other vehicles, and drivers can maintain their desired speeds with little or no delay.	0.60
B	Level of Service B is in the zone of stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation. Reductions in speed are not unreasonable, with a low probability of traffic flow being restricted. The upper limit (lowest speed, highest volume) of this level of service has been associated with service volumes used in the design of rural highways.	0.61-0.70
C	Level of Service C is still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. Most of the drivers are restricted in their freedom to select their own speed, change lanes, or pass. A relatively satisfactory operating speed is still obtained, with service volumes perhaps suitable for urban design practice.	0.71-0.80
D	Level of Service D approaches unstable flow, with tolerable operating speeds being maintained though considerably affected by changes in operating conditions. Fluctuations in volume and temporary restrictions to flow may cause substantial drops in operating speeds. Drivers have little freedom to maneuver, and comfort and convenience are low, but conditions can be tolerated for short periods of time.	0.81-0.90
E	Level of Service E cannot be described by speed alone, but represents operations at even lower operating speeds than in Level D, with volumes at or near the capacity of the highway. Flow is unstable, and there may be stoppages of momentary duration.	0.91-1.00
F	Level of Service F describes forced flow operation at low speeds, where volumes are below capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially and stoppages may occur for short or long periods of time because of downstream congestion. In the extreme, both speed and volume can drop to zero.	1.00

SOURCE: Highway Research Board, 1965, Highway Capacity Manual, Special Report 87.

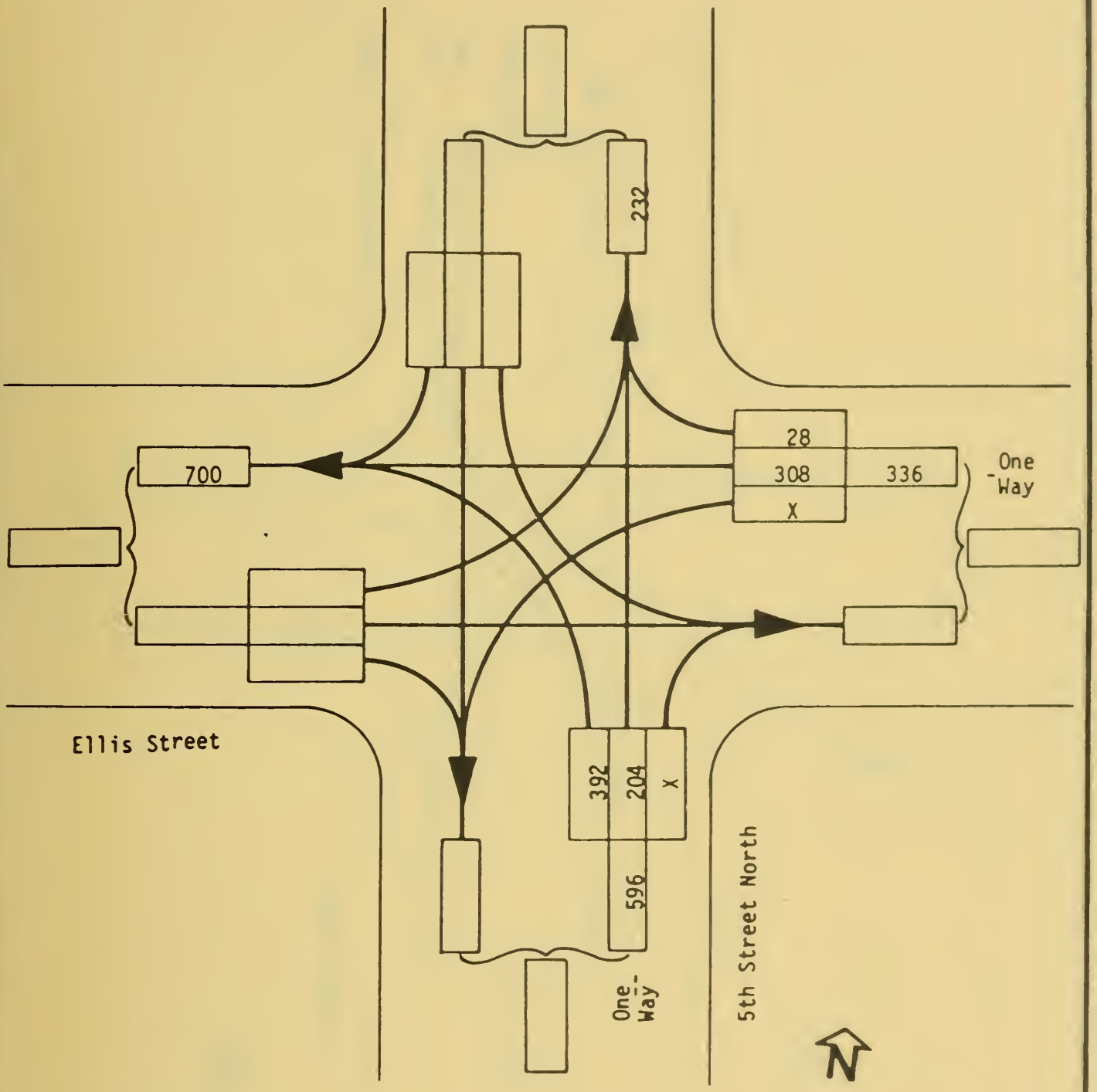


X - Prohibited

LOCATION 5th Street North and Eddy Street, Existing Traffic Volumes

PERIOD 4:00-5:00 p.m. Thursday 2/28/80

E-2: INTERSECTION TURNING MOVEMENTS AT 5th STREET NORTH AND EDDY STREET

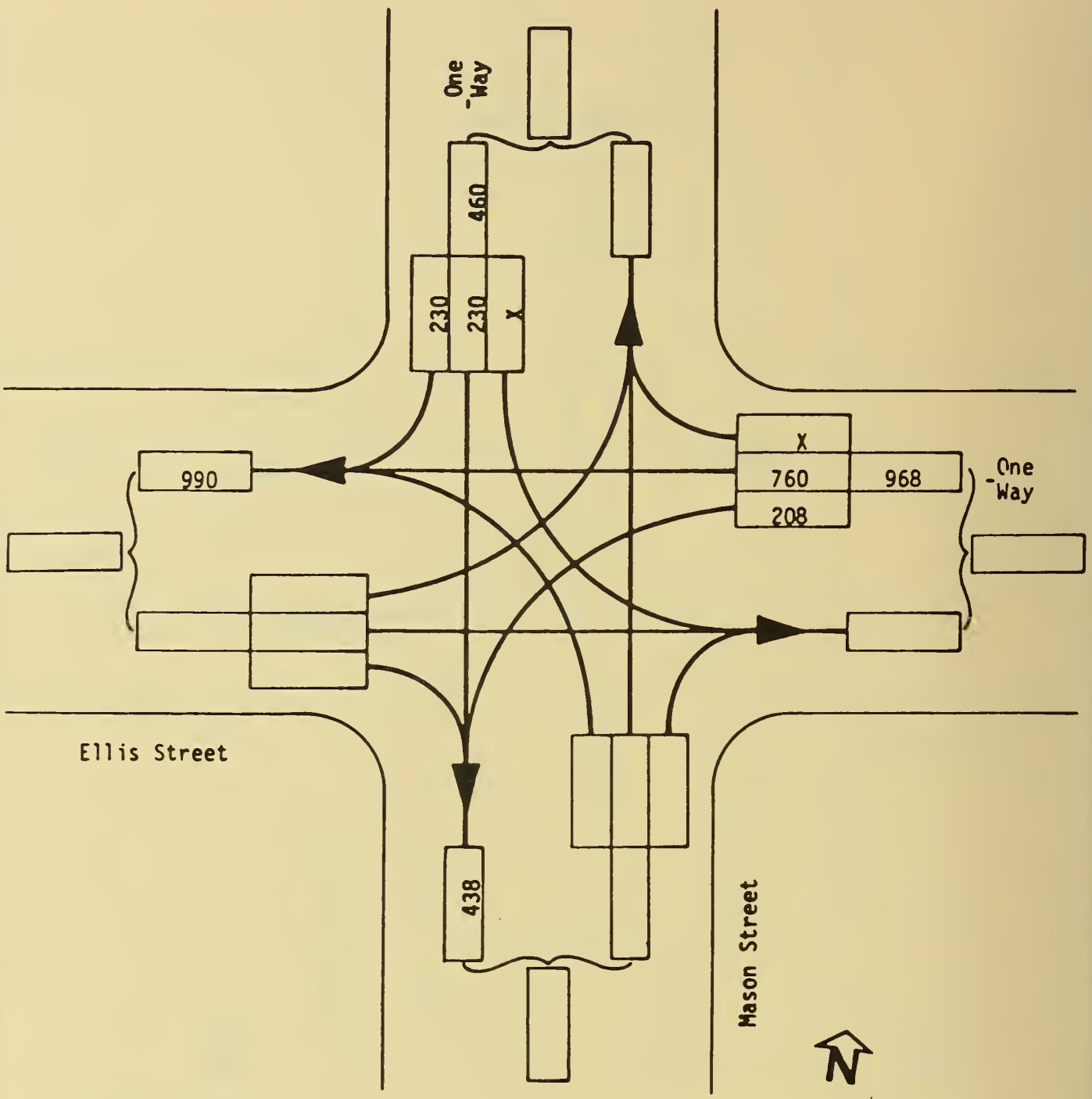


X - Prohibited

LOCATION 5th Street North and Ellis Street, Existing Traffic Volumes

PERIOD 4:00 P.M. - 5:00 P.M. Friday 7/20/79

E-3: INTERSECTION TURNING MOVEMENTS
AT 5th STREET NORTH AND ELLIS STREET

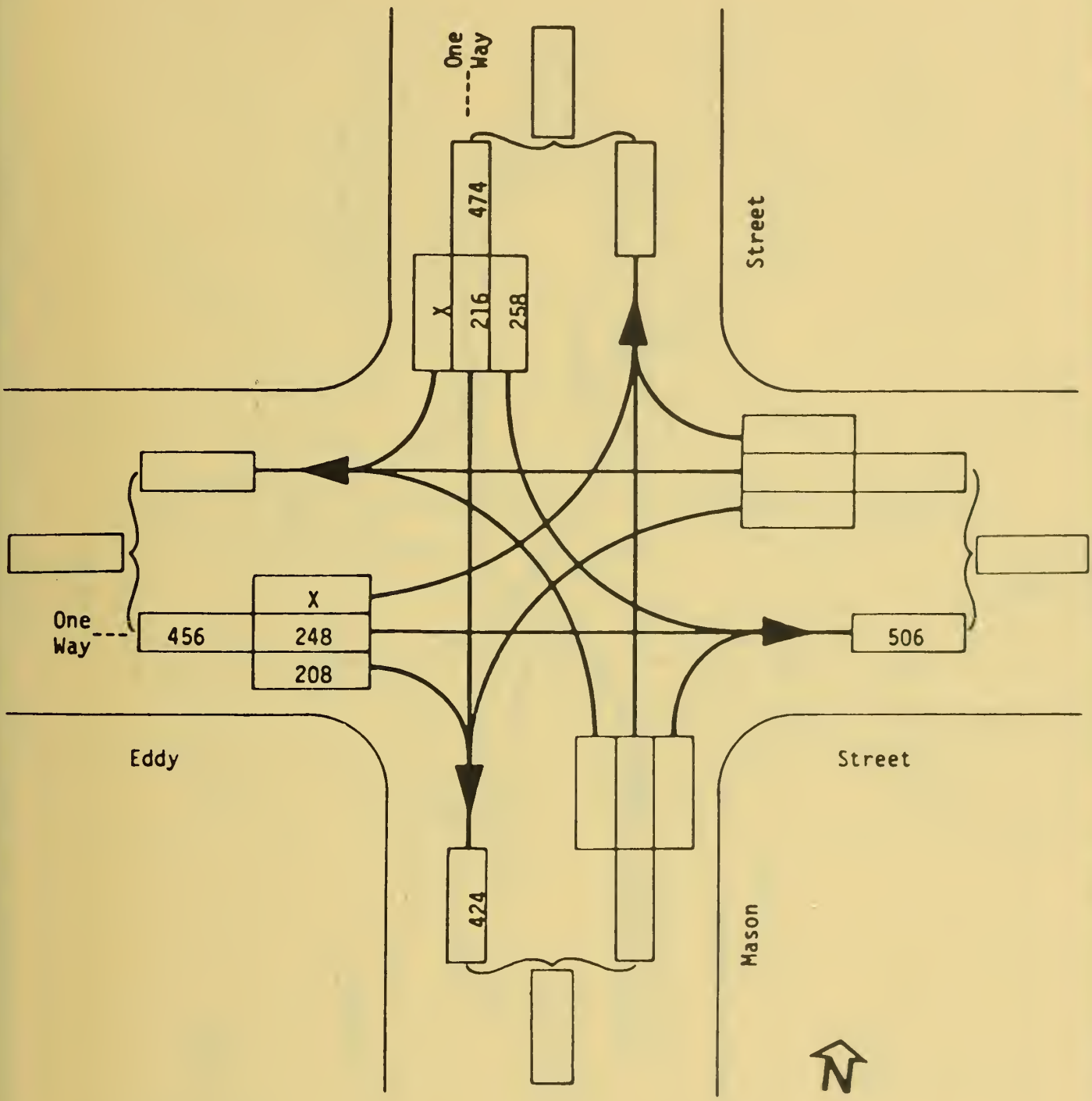


X - Prohibited

LOCATION Mason Street & Ellis Street, Existing Traffic Volumes

PERIOD 5:00 P.M. - 6:00 P.M. Friday 7/20/79

E-4: INTERSECTION TURNING MOVEMENTS AT MASON AND ELLIS STREETS

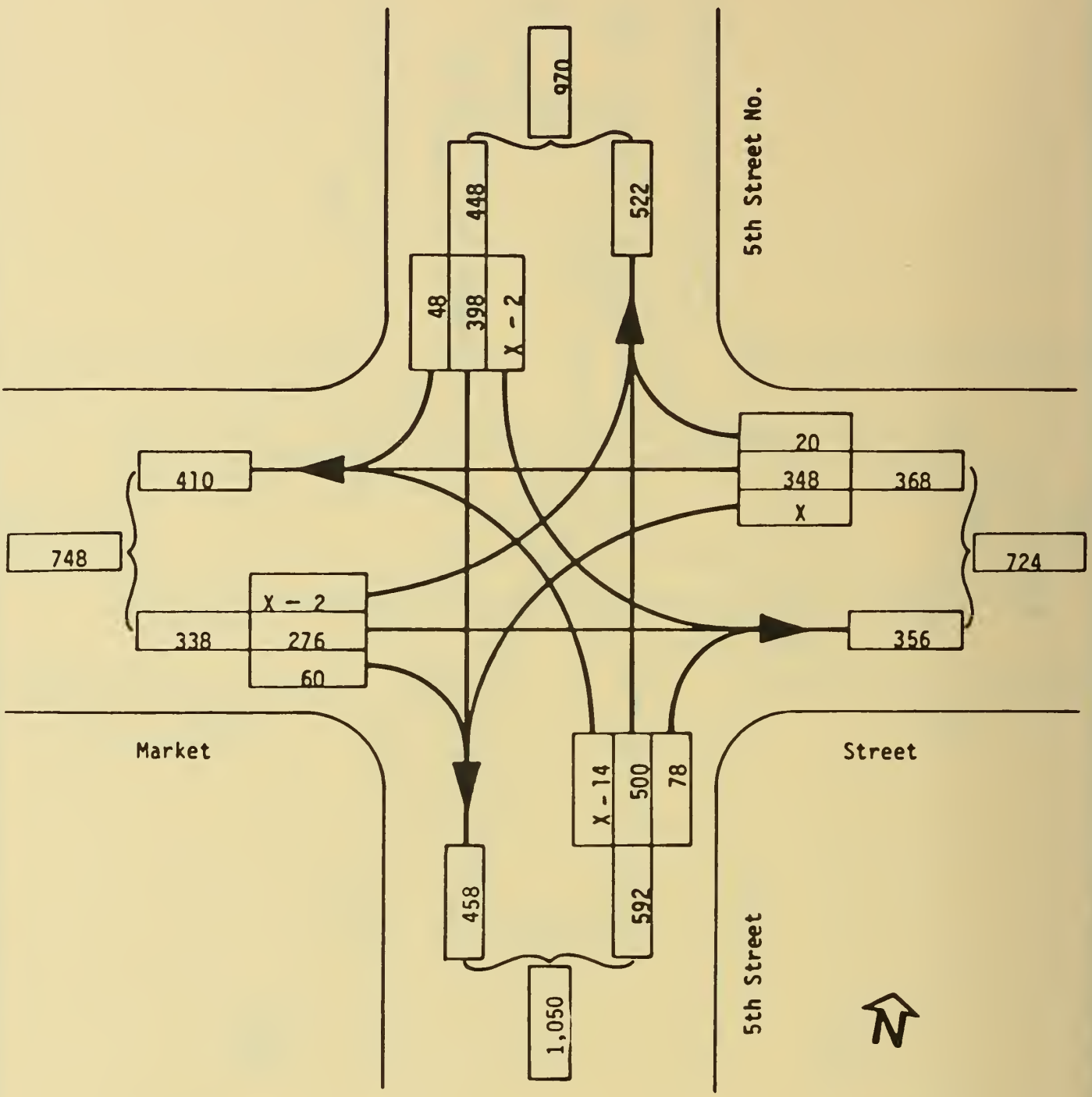


X - Prohibited

LOCATION Mason Street and Eddy Street, Existing Traffic Volumes

PERIOD 5:00 - 6:00 P.M. - Thursday 2/28/80

E-5: INTERSECTION TURNING MOVEMENTS AT MASON AND EDDY STREETS

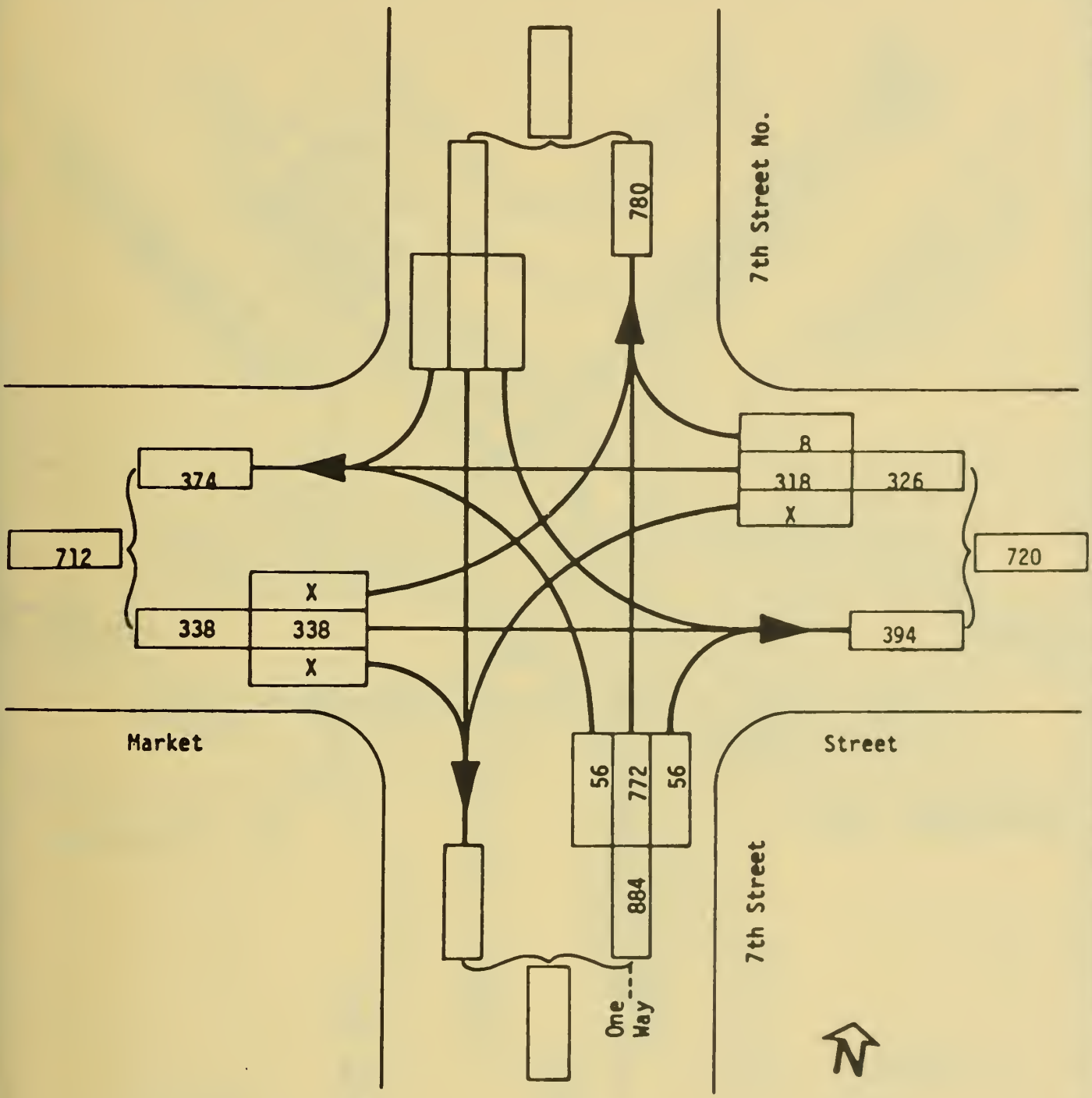


X - Prohibited

LOCATION 5th Street - 5th Street No. and Market Street, Existing Traffic Volumes

PERIOD 5:00 - 6:00 P.M. - Thursday 2/21/80

E-6: INTERSECTION TURNING MOVEMENTS AT 5th STREET - 5th STREET NORTH AND MARKET STREET

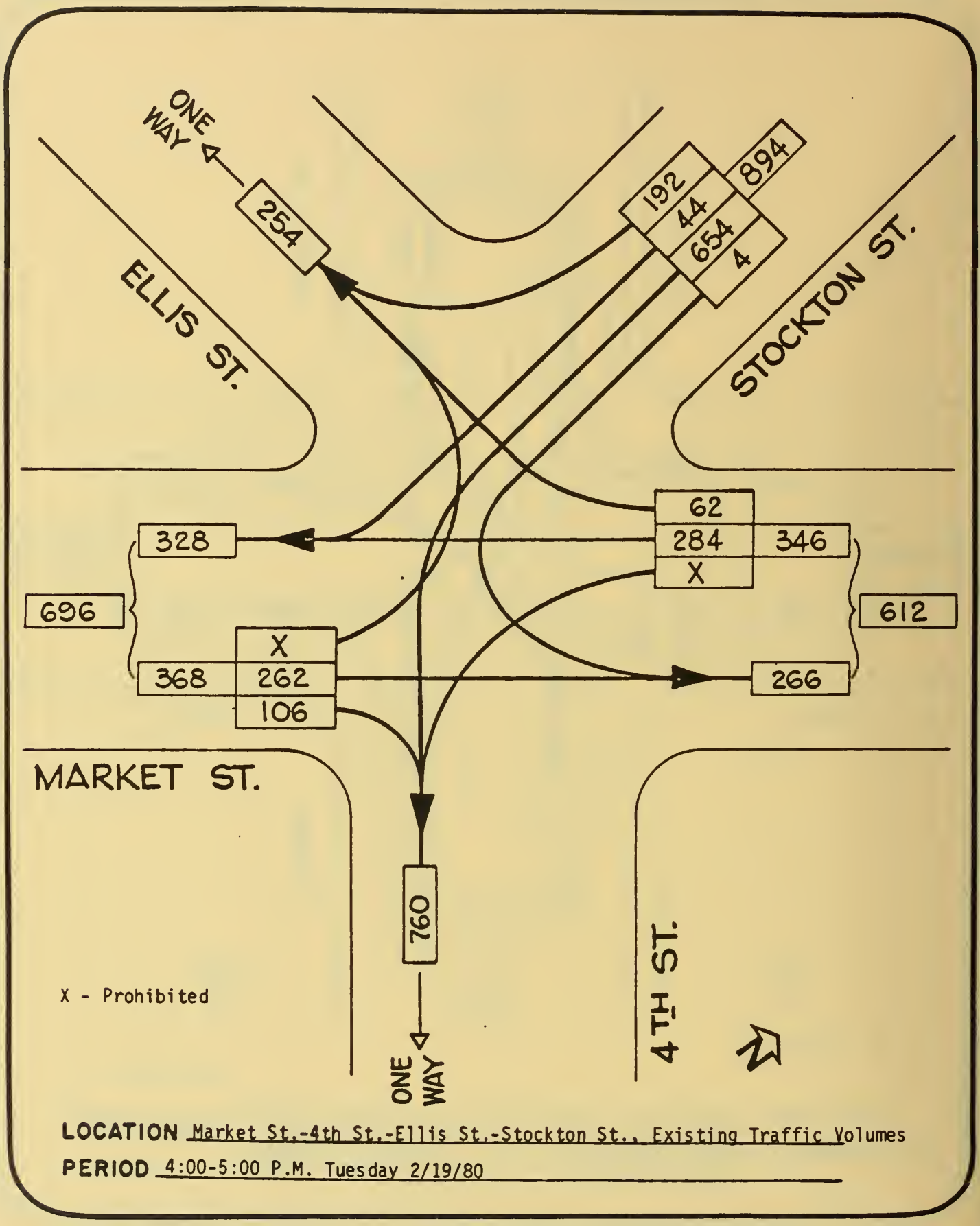


X - Prohibited

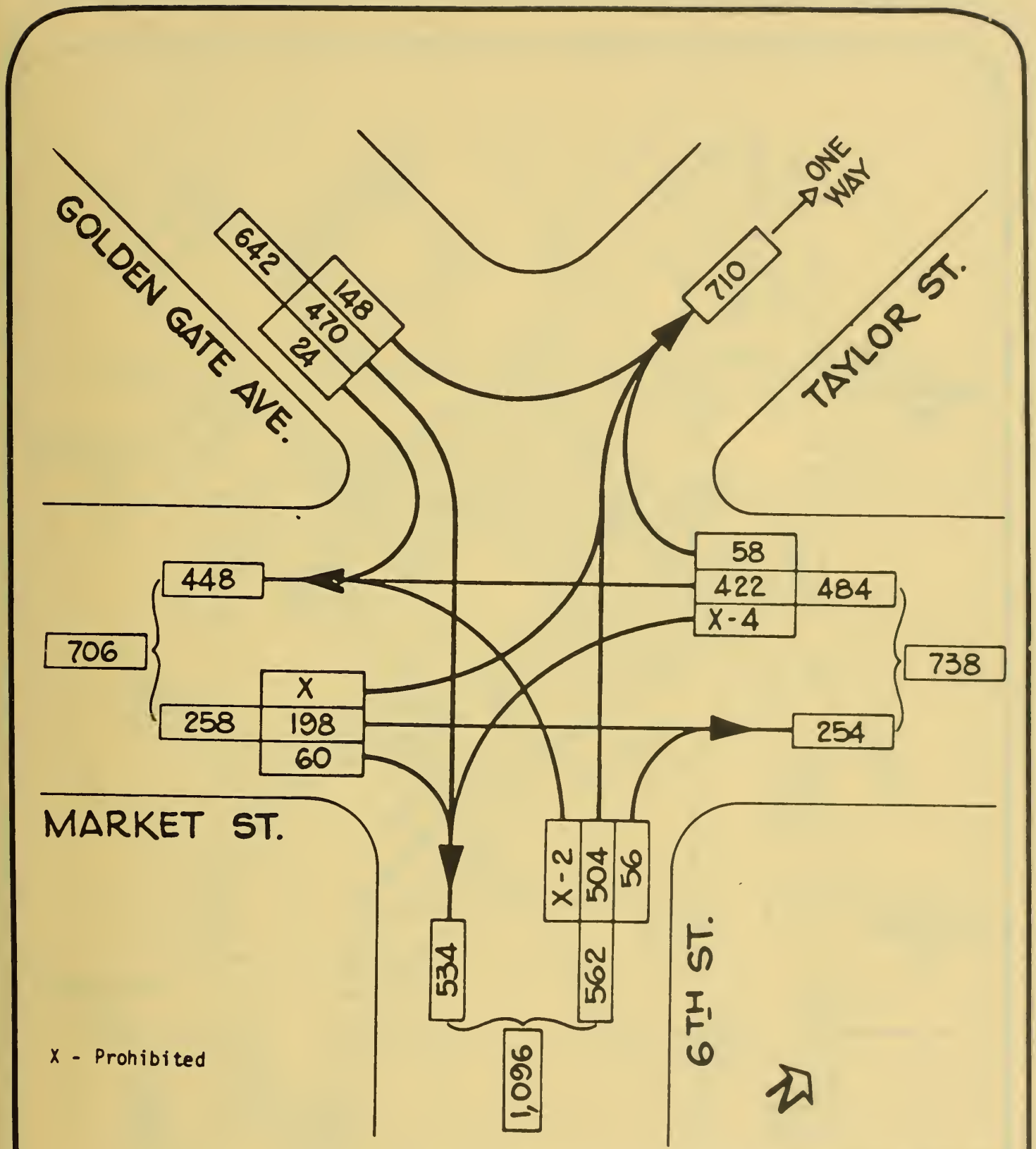
LOCATION 7th Street - 7th Street No. and Market Street, Existing Traffic Volumes

PERIOD 4:00 - 5:00 P.M. - Thursday 2/21/80

E-7: INTERSECTION TURNING MOVEMENTS AT 7th STREET - 7th STREET NORTH AND MARKET STREET



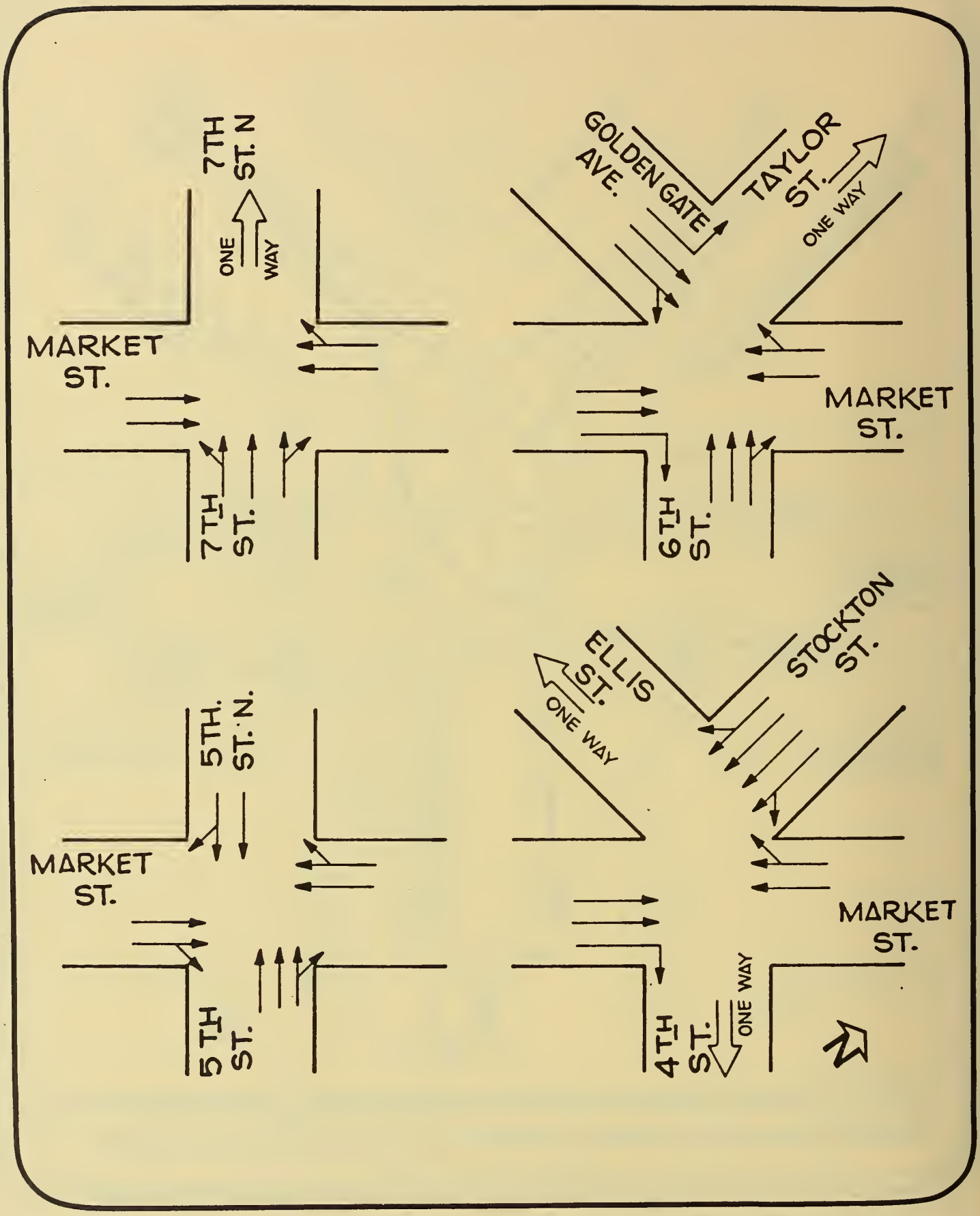
E-8: INTERSECTION TURNING MOVEMENTS AT MARKET STREET - 4th STREET - ELLIS STREET - STOCKTON STREET



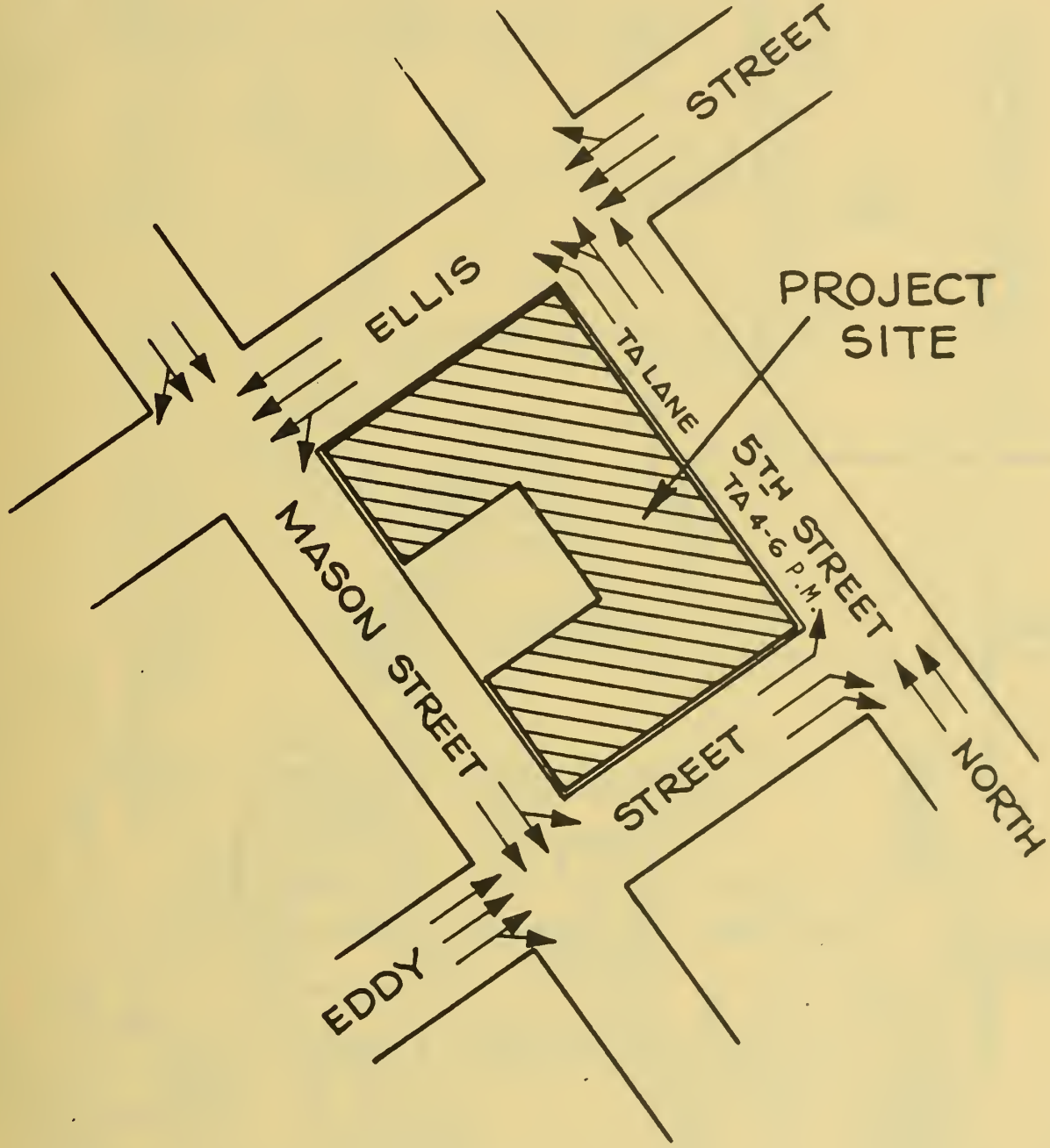
LOCATION Market St.-6th St.-Golden Gate Ave.-Taylor St., Existing Traffic Volumes

PERIOD 5:00-6:00 P.M. Tuesday 2/19/80

E-9: INTERSECTION TURNING MOVEMENTS AT MARKET STREET
6th STREET - GOLDEN GATE AVENUE - TAYLOR STREET



E-10: INTERSECTION GEOMETRICS
MARKET STREET - FOURTH STREET
TO SEVENTH STREET



LEGEND

TA - TOWAWAY

4-6 - TIME OF ENFORCEMENT

E-11: P.M. PEAK-HOUR STREET GEOMETRICS ADJACENT TO PROJECT BLOCK

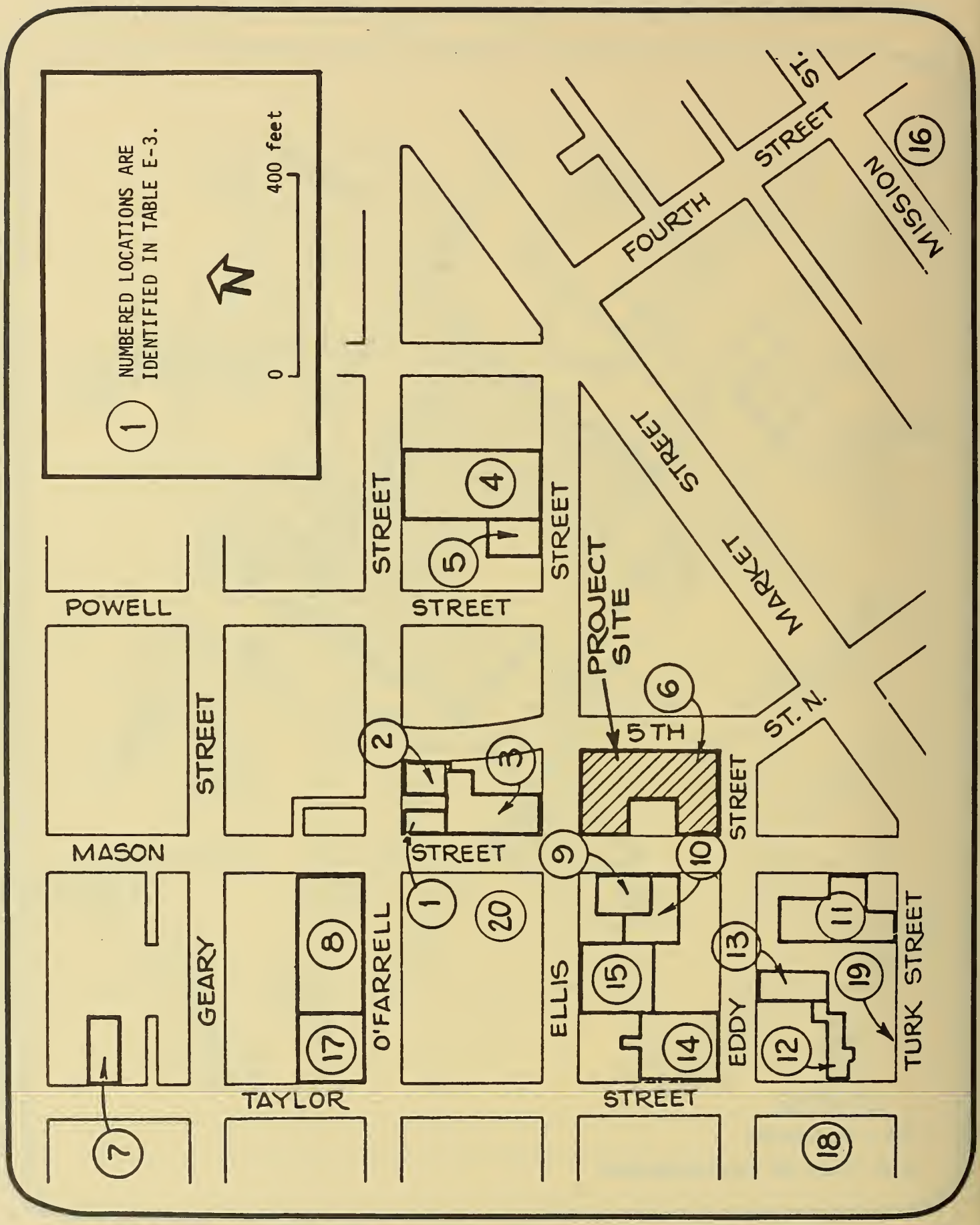


FIGURE E-12: OFF-STREET PARKING LOTS IN THE VICINITY

TABLE E-3: OFF-STREET PARKING IN THE HOTEL RAMADA VICINITY

Number*	Lot Location	Spaces		Time of Day		Weekday Turnover	Weekday Vacancy	Weeknight Vacancy	Saturday Vacancy	Sunday Vacancy
		Total	Rented	Load	Unload					
1										
2	190 Ellis St.	80	10	9-10	4-6	(This is site of Holiday Inn project)				
3										
4	60 Ellis St.	1,000	200	8-12	4-6	1.3	200	800	600	700
5	80 Ellis St.	83	10	9-11	4-6	1.2	3	12	10	3
6	70 Eddy St.	150	45	10-11	4-6	(This is site of Hotel Ramada project)				
7	530 Taylor St.	110	50	11-2**	1-2	3.0	0	0	60	60
8	325 Mason St.	914	500	4-7	11-1:30 am***	2.0	200	200	600	600
9	165 Mason St.	20	0	7-8	3-4	2.0	0	0	6	19
10	121 Mason St.	47	0	7-8	3-4	2.0	0	0	20	38
11	15 Mason St.	200	100	8-9	4-6	1.5	70	20	70	80
12	120 Taylor St.	19	0	11-12	7-8	2.0	0	10	10	10
13	149 Eddy St.	32	NA	NA	NA	NA 1	NA	2	16	
14	Eddy/Taylor St.	65	NA	NA	NA	NA 5	NA	17	53	
15	261 Ellis St.	350	100	8-11	5-6	1.1	75	200	150	200
16	Fifth St. Garage	1,800	0+	5-9	by 7++	2.0	50-100	1,700	100-150	1,200
17	400 Taylor	150	0	10	4-5	0.6	50	20	15	40
18	141 Taylor	33	NA	NA	NA	NA 2	NA	30	30	
19	60 Turk	92	50	12-2***	5	1.1	0+++	0+++	0+++	0+++
20	Hilton Hotel	213	0	NA	NA	0.5	110	100	NA	NA
Totals		5,358	1,065				766-816	3,062		

*Numbers correspond to those on Figure E-12
**Second load period 6:00 to 8:00 p.m.
***Second load period 6:00 to 10:00 p.m. - Second unload period 4:00 to 7:00 period
+Non-reserved, special rate use is 200 stalls
++Shopper traffic loads and unloads throughout the day between 8:00 a.m. and 7:00 p.m.
+++Theater times
NA: Not Available

SOURCE: Survey of lot operators and on-site measurements conducted by John J. Forristal, Consulting Traffic Engineer

TABLE E-4: ON-STREET PARKING IN THE HOTEL RAMADA VICINITY*

Street	Block	Metered Stalls	Limit (Min)	Loading Stalls**	Limit (Min)	Yellow Zones	White Zones	Other Zones
Eddy	5th St. No.-Mason	3	30	1	30	2		
	Mason-Taylor	16	30	3	30	3	1	
	Taylor-Jones	18	60			4	3	
	Jones-Leavenworth	23	60			3	4	
Ellis	Stockton-Powell	6	30	2	30	6		
	Powell-5th St.	4	30	1	30	3	3	
	5th St. No.-Mason	3	30	1	30	3	3	
	Mason-Taylor	13	30			4	1	
	Taylor-Jones	12	60			4	4	
	Jones-Leavenworth	16***	60			4	2	4 Green
Geary	Grant-Stockton			11	30	4		
	Stockton-Powell					3	4	
	Powell-Mason	3	30	6	30	4	3	
	Mason-Taylor	10	30	4	30	4	2	
	Taylor-Jones	15	60			2	3	
	Jones-Leavenworth	17***	60			2	4	2 Green
Grant	Geary-O'Farrell	8	30	4	30	3	1	
Mason	Turk-Eddy	10	30			2	2	
	Eddy-Ellis	8	30	4	30	3	1	
	Ellis-O'Farrell	10	30				1	
	O'Farrell-Geary							1 Taxi
	Geary-Post	2	30	2	30	4	2	
	Post-Sutter	8	30			5	1	
Post	Grant-Stockton			6	30	4	4	
	Stockton-Powell			2	30	4	4	
	Powell-Mason	4	30	2	15	4	5	1 Taxi
	Mason-Taylor	6	30	3	30	2	4	
	Taylor-Jones	15	60			2	5	
	Jones-Leavenworth	17	60			3	3	
Taylor	Golden Gate-Turk	7	30	5	30	3	2	

TABLE E-4: ON-STREET PARKING IN THE HOTEL RAMADA VICINITY (cont.)

Street	Block	Metered Stalls	Limit (Min)	Loading Stalls**	Limit (Min)	Yellow Zones	White Zones	Other Zones
Taylor	Turk-Eddy	5	30	4	30	3	3	
	Eddy-Ellis	7	30	4	30	1		
	Ellis-O'Farrell	4	30	1	30	1	3	1 Taxi
	O'Farrell-Geary	3	30	3	30	2	4	
	Geary-Post	5	30	2	30	4	2	
	Post-Sutter	13	30	1	30	3	2	
Turk	Mason-Taylor	13	30	3	30	2	2	
	Taylor-Jones	14	60			4	1	
	Jones-Leavenworth	13	60			5	1	
Jones	McAllister-Golden Gate	13	30			3	2	
	Golden Gate-Turk	9	60			1	2	
	Turk-Eddy	14	60	1	15	4	2	
	Eddy-Ellis	16	60			1	2	
	Ellis-O'Farrell	20	60			1		
	O'Farrell-Geary	13	60			2	4	
	Geary-Post	15	60				1	
	Post-Sutter	15	60				1	
O'Farrell	Grant-Stockton	4	30	3	30	3	1	
	Stockton-Powell			2	30	4	3	
	Powell - 5th St. No.	1	30	2	30	3	4	
	5th St. No. - Mason	3	30	2	30	3	4	
	Mason-Taylor	6 No Limit Stalls						
	Taylor-Jones	1	30	4	30	3	4	
	Jones-Leavenworth	23**	60			2	3	2 Green
Powell	Ellis-O'Farrell					4	4	1 Taxi
	O'Farrell-Geary					4	3	2 Taxi
	Geary-Post						2	1 Taxi
	Post-Sutter						2	1 Taxi
Stockton	Ellis-O'Farrell	2	30	5	30	3		
	O'Farrell-Geary	5	30	5	30	1	2	

TABLE E-4: ON-STREEET PARKING IN THE HOTEL RAMADA VICINITY (cont.)

Street	Block	Metered Stalls	Limit (Min)	Loading Stalls**	Limit (Min)	Yellow Zones	White Zones	Other Zones
Stockton	Geary-Post					2	2	
	Post-Sutter	4	30	4	30	2	4	
Golden Gate	Taylor-Jones	12	60					
	Jones-Leavenworth	18	60			7	1	
Market	Stockton-Grant							1 Ldg. Bay
	Stockton-Powell							2 Ldg. Bays
	Mason-Taylor							3 Ldg. Bays
	Taylor-Jones							2 Ldg. Bays
Leavenworth	McAllister-Golden Gate	17	60			1		
	Golden Gate-Turk	10	60			3	1	
	Turk-Eddy	20	670			1	2	
	Eddy-Ellis	20	60			2		
	Ellis-O'Farrell	16 (Not Metered)	60				1	1 Green
	O'Farrell-Post	16 (Not Metered)	60			1	2	
	Post-Sutter	14 (Not Metered)	60			4	1	
Fifth North	Market-Eddy	No Parking			2	1		
	Eddy-Ellis	15	30			2	1	
	Ellis-O'Farrell	21	30			1		
Fourth	Market-Mission	16	30			3	3	1 Handicpd
Fifth	Market-Mission	6	30	2	30	5	2	
Sixth	Market-Mission	15	30	8	30	7	1	
McAllister	Jones-Leavenworth	12	60			2	2	

*The study area surveyed was bounded by McAllister, Leavenworth, Sutter, Grant, Mission and Market; Sutter, Grant and Mission Sts. themselves were not surveyed.
**Reserved for truck loading in AM or PM; otherwise available as metered stalls.
***Not metered or marked: Number based on observed use.
SOURCE: Division of Traffic Engineering records and field measurements, Tuesday, 12 February 1980.

APPENDIX F: PEDESTRIANS

TABLE F-1: PEDESTRIAN FLOWS

Flow Regime	Walking Speed Choice	Conflicts	Flow Rate (P/F/M)* Average
Open	Free Selection	None	0.5
Unimpeded	Some Selection	Minor	0.5-2
Impeded	Some Selection	High Indirect Interaction	2-6
Constrained	Some Restriction	Multiple	6-10
Crowded	Restricted	High Probability	10-14
Congested	All Reduced	Frequent	14-18
Jammed**	Shuffle Only	Unavoidable	18+**

*P/F/M = Pedestrians per foot of sidewalk width per minute.
**For Jammed Flow, the (attempted) flow rate degrades to zero at complete breakdown.

SOURCE: Pushkarev, Boris and Jeffrey M. Zupan, Urban Space for Pedestrians, Cambridge, MA, MIT Press, 1975.

TABLE F-2: 1980 WEEKDAY P.M. PEAK-HOUR PEDESTRIAN VOLUMES AT INTERSECTIONS ADJACENT TO THE PROJECT SITE

STREET CROSSED	INTERSECTING STREET	CURBLINE	VOLUME
Mason St.	Ellis St.	N	197
		S	278
Ellis St.	Mason St.	E	163
		W	198
Fifth St. No.	Ellis St.	N	168
		S	307
Ellis St.	Fifth St. No.	E	60
		W	44*
Mason St.	Eddy St.	N	464
		S	223
Eddy St.	Mason St.	E	334
		W	288
Fifth St. No.	Eddy St.	N	751
		S	62*
Eddy St.	Fifth St. No.	W	394

*Prohibited pedestrian movement.

TABLE F-3: 1980 PEDESTRIAN TRAFFIC CROSSING AT MARKET ST.

CROSSING POINT	CURBLINE	12M-1PM	4:30-5:30	EST 24 HOURS
Seventh St.	West	461	394	4,900
	East	801	684	8,400
Sixth St.	West	331	284	3,500
	East	557	476	5,900
Fifth St.	West	622	532	6,500
	East	927	792	9,800
Powell St.		2,341	1,994	24,600
Fourth St.	West	412	352	4,300
	East	686	586	7,200

APPENDIX G: SAN FRANCISCO AIR QUALITY

Meteorological characteristics such as wind patterns and thermal inversions determine the movement and dispersion of air pollutants. The prevailing wind directions in San Francisco are from the west and northwest. Wind frequencies and speeds are generally highest in the summer. Light-variable (calm) wind conditions occur approximately 25% of the time on an annual basis. A thermal inversion (an inverted vertical temperature structure of the atmosphere consisting of warm air above cool air) is a stable atmospheric condition that inhibits the upward dispersion of air pollutants and traps them in a layer near the ground. High-altitude subsidence inversions, associated with warm descending air in a high-pressure cell which may last for several days, occur most of the time in summer and fall. Low-altitude radiation inversions, caused by radiation of heat from the earth's surface into cold nighttime air and usually dissipating by noon, occur most of the time in winter.

San Francisco's air quality is generally more free of pollutants than that of other developed portions of the Bay Area, because much of San Francisco is usually upwind of major pollutant sources such as industries, airports, freeways and other pollutant-generating urban activities. Thus, San Francisco rarely receives pollutants from other areas, although pollutants from the City blow to other parts of the Bay area.

When light-variable wind conditions are coupled with thermal inversions, creating air stagnation, high concentrations of pollutants can build up. Such conditions typically occur during the fall, the period of heaviest photochemical smog. Carbon monoxide (CO), suspended particulate (SP), hydrocarbons (HC), nitrogen dioxide (NO_2) ozone (O_3), and sulfur dioxide (SO_2) are major pollutants in the San Francisco area. Carbon monoxide is a toxic gas whose main source is motor vehicle exhaust. It tends to be a local problem near areas with high traffic volumes and poor ventilation. Particulates have many sources including wind-blown dust, fires, industrial processes, construction activities, and atmospheric photochemical reactions between other pollutants. Small-sized particles can reduce visibility and can contribute to respiratory health problems.

Hydrocarbons and nitrogen oxides react in the atmosphere in the presence of sunlight to produce oxidants such as ozone which can cause eye irritation and respiratory difficulties, and damage vegetation. In addition, nitrogen oxides reduce visibility. Sulfur dioxide reacts by a variety of mechanisms, including oxidation in water droplets, and oxidation in the presence of light and NO_2 and some hydrocarbons, producing sulfuric acid and sulfate ion. Sulfur dioxide and sulfuric acid are respiratory irritants; sulfur dioxide (in sufficiently high concentrations) is known to damage leaves of some plants.

The Bay Area Air Quality Management District (BAAQMD) monitoring station at 939 Ellis Street is located on the roof of the 9-story building. While measurements there indicate daily, seasonal and annual meteorological and air quality trends, it is not clear how well the measurements represent conditions at street level near the station or elsewhere in the City.

TABLE G-1: SAN FRANCISCO AIR POLLUTANT SUMMARY 1977-1979

STATION: 939 Ellis Street, San Francisco POLLUTANT:	STANDARD	1977	1978	1979
OZONE (O_3) (Oxidant)				
1-hour concentration (ppm /a/)				
Highest hourly average	(0.08) 0.12/b,c/	0.05	0.11	0.08
Number of standard excesses		(0) 0	(4) 0	0
Expected Annual Excess/c/		0.3	0.3	0.0
CARBON MONOXIDE (CO)				
1-hour concentration (ppm)				
Highest hourly average	35/b/	16	17	20
Number of standard excesses		0	0	0
8-hour concentration (ppm)				
Highest 8-hour average	9/b/	8.9	9.4	13.8
Number of standard excesses		0	1	2
NITROGEN DIOXIDE (NO_2)				
1-hour concentration (ppm)				
Highest hourly average	0.25/d/	0.21	0.30	0.16
Number of standard excesses		0	4	0
SULFUR DIOXIDE (SO_2)				
24-hour concentration (ppm)				
Highest 24-hour average	0.05/d/	0.035	0.024	0.034
Number of standard excesses/e,f/		0	0	0
TOTAL SUSPENDED PARTICULATE (TSP)				
24-hour concentration (ug/m^3 /g/)				
Highest 24-hour average	100/d/	105	128	117
Number of standard excesses/f/		1	1	1
Annual concentration (ug/m^3)				
Annual Geometric Mean	60/d/	41	42	42
Annual standard excess		No	No	No

/a/ ppm: parts per million.
/b/ National standard, not to be exceeded more than once per year (except for annual standards which are not to be exceeded).
/c/ The national ozone standard was revised from 0.08 ppm to 0.12 ppm in January 1979. The number of excesses shown in parentheses is of the old 0.08 ppm standard in effect at the time. Expected Annual Excess is a three-year average of annual excesses of the new 0.12 ppm standard.
/d/ California standard, not to be equaled or exceeded.
/e/ The sulfur dioxide standard is considered to be exceeded only if there is a concurrent excess of the state ozone or suspended particulate standards at the same station. Otherwise, the national standard of 0.14 ppm applies.
/f/ Number of observed excess days (measurements taken once every six days).
/g/ ug/m^3: micrograms per cubic meter.

SOURCE: BAAQMD, 1977 - 1979, Contaminant and Weather Summaries.

APPENDIX H: FUNDAMENTAL ACOUSTICAL CONCEPTS/1/

Three characteristics of environmental noise are important in determining subjective response: the intensity or level of the sound, the frequency spectrum of the sound, and the time-varying character of the sound.

Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in the logarithmic scale of decibels (dB), with 0 dB corresponding roughly to the threshold of hearing. Measurements in decibels must be added according to logarithmic rules; for example, two individual 80 dB sounds occurring simultaneously create a composite sound level of 83dB.

The "frequency" of a sound refers to the number of complete pressure fluctuations per second in the sound. The unit of measurement is the cycle per second (cps) or Hertz (Hz). Most of the sounds which we hear in the environment do not consist of a single frequency, but of a broad band of frequencies, differing in sound level. The quantitative expression of the frequency and level content of a sound is its sound spectrum. A sound spectrum for engineering purposes is typically described in terms of octave bands which separate the audible frequency range (for human beings, from about 20 to 20,000 Hz) into nine segments.

Many rating methods have been devised to permit comparisons of quite different sounds. Fortunately, the simplest method correlates with human response almost as well as the more complex methods (Parkin 1964 and Botsford 1969). This method consists of evaluating the content of a sound in accordance with a weighting that reflects the fact that human hearing is less sensitive at low frequencies and extreme high frequencies than in the frequency midrange. The weighting curve used is called "A" weighting, and the level so measured is called the "A-weighted sound level", or simply the "A-level".

The A-level in decibels is expressed as "dBA"; the appended letter "A" is a reminder of the particular kind of weighting used for the measurement. Typical A-levels measured in the environment and in industry are shown in Table H-1.

Although the A-level may adequately describe environmental noise at any instant in time, community noise level varies continuously. Most environmental noise includes a conglomeration of distant noise sources which creates a relatively steady background noise in which no particular source is identifiable. These distant sources may include traffic, wind in trees, industrial activities, etc. These noise sources are relatively constant from moment to moment, but vary slowly as natural forces change or as human activity follows its daily cycle. Superimposed on this slowly varying background is a succession of identifiable noisy events, which may include single vehicle passages, aircraft flyovers, etc.

To describe the time-varying character of environmental noise, the statistical noise descriptors L10, L50, and L90 are commonly used (Kittelson, et al., 1964, Griffiths, et al., 1968, Olson 1970, Scholes 1970, Gordon, et al., 1971). The L10, as used in this report, is the A-weighted sound level equaled or exceeded during 10% of a stated time period. The L_{10} is considered by

TABLE H-1: TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT AND IN INDUSTRY

	DECIBELS A-WEIGHTED	
CIVIL DEFENSE SIREN (100')	140	
JET TAKEOFF (200')	130	THRESHOLD OF PAIN
	120	
RIVETING MACHINE	110	ROCK MUSIC BAND
EMERGENCY ENGINE-GENERATOR (6') DC-10 FLYOVER (700')	100	PILE DRIVER (50')
SUBWAY TRAIN (20')	90	BOILER ROOM PRINTING PRESS PLANT
PNEUMATIC DRILL (50')	80	GARBAGE DISPOSAL IN HOME (3') INSIDE SPORTS CAR, 50 MPH
FREIGHT TRAIN (100') VACUUM CLEANER (10') SPEECH (1')	70	
	60	AUTO TRAFFIC NEAR FREEWAY LARGE STORE ACCOUNTING OFFICE
LARGE TRANSFORMER (200')	50	PRIVATE BUSINESS OFFICE LIGHT TRAFFIC (100') AVERAGE RESIDENCE
	40	MINIMUM LEVELS, RESIDENTIAL AREAS IN SAN FRANCISCO AT NIGHT
SOFT WHISPER (5')	30	
RUSTLING LEAVES	20	RECORDING STUDIO
	10	
THRESHOLD OF HEARING IN YOUTHS (1000-4000 Hz)	0	

NOTE: The distance (in feet) between the source and listener is shown in parentheses.

SOURCE: Charles M. Salter Associates, Inc.

noise engineers to be a good measure of the "average peak" noise. The L_{50} is the A-weighted sound level that is equaled or exceeded 50% of a stated time period. The L_{50} represents the median sound level. The L_{90} is the A-weighted sound level equaled or exceeded during 90% of a stated time period. The L_{90} is used to describe background noise.

As it is often cumbersome to describe the noise environment with these statistical descriptors, a single number descriptor called the L_{eq} is becoming widely used. The L_{eq} is defined as the equivalent steady-state sound level which in a stated period of time would contain the same acoustic energy as the time-varying sound level during the same time period. The L_{eq} is particularly useful in describing the subjective change in an environment where the source of noise remains the same but there is change in the level of activity. Widening roads and/or increasing traffic are examples of this kind of situation.

During nighttime hours, exterior background noise levels are generally lower than daytime levels. Most household noise also decreases at night, and exterior noises become very noticeable. Further, most people are sleeping at night and are very sensitive to noise intrusion.

To account for human sensitivity to nighttime noise levels the descriptor L_{dn} (day-night equivalent sound level) was developed. The L_{dn} is the A-weighted average sound level in decibels during a 24-hour period with a 10 dB weighting applied to nighttime (10:00 p.m. to 7:00 a.m.) levels. For highway noise environments the L_{eq} during the peak traffic hour is approximately equal to the L_{dn}.

The effects of noise on people may be listed in three general categories:

1) subjective effects of annoyance, nuisance, dissatisfaction;
2) interference with activities such as speech, sleep, learning;
3) physiological effects such as startle, hearing loss.

The sound levels associated with environmental noise, in most cases, produce effects only in the first two categories. Unfortunately, there is as yet no satisfactory measure of the subjective effects of noise, or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance, and habituation to noise over differing individual past experiences with noise (Stevens, et al. 1955).

An important parameter in determining a person's subjective reaction to a new noise is the existing noise environment to which one has adapted: the so-called "ambient" noise. "Ambient" is defined in the San Francisco Noise Ordinance as "the all-encompassing noise associated with a given environment, being a composite of sounds from many sources, near and far" (S.F. Municipal Code 1972). In general, the more a new noise exceeds the previously existing ambient, the less acceptable the new noise will be judged by the hearers (Galloway, et al. 1969).

Knowledge of the following relationships will be helpful in understanding the quantitative sections of the EIR (Stevens, et al. 1955, Beranek 1954):

1) Except in carefully controlled laboratory experiments, an increase of only one dB in A-level cannot be perceived.
2) Outside of the laboratory, a three dB increase in A-level is considered a just-noticeable difference.
3) A change in A-level of at least five dB is required before any noticeable change in community response would be expected.
4) A ten dB increase in A-level is subjectively heard as approximately a doubling in loudness, and would almost certainly cause an adverse change in community response. Increases of more than ten decibels would be expected to provoke complaints.

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NOTE - Appendix H

/1/ Modified from Salter, Charles M. Associates Inc., May 1979, "Appendix M: Fundamental Acoustical Concepts" in San Francisco City Planning Commission, Environmental Impact Report for 101 California Street, EE 78.27.